IMPACT OF TEA PLANTATION ON SOCIO-ECONOMIC LIFE OF DOOARS REGION OF WEST BENGAL

DISSERTATION

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BY

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Certificate

This is to certify that **Mr. Mantaj Ali** has completed his M. Phil. dissertation entitled **"Impact of Tea Plantation on Socio-Economic Life of Dooars Region of West Bengal"**, under my supervision. His dissertation is, in my opinion, based on original work and is fit for submission for the evaluation.

23.6.05

(Dr. Sayeed Ahmad Khan)
Supervisor

Dedicated

to

My Parents

and all those who are in search of knowledge

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Mantaj Ali

(MANTAJ ALI)

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CHAPTER-I

GEOGRAPHY OF THE DOOARS REGION

Introduction

Dooars is one of the important geographical regions of West Bengal. The region spreads on entire territory of the district of Jalpaiguri and not outside the administrative boundary of the district. The district of Jalpaiguri is located on the northern border of the state touching the boundary of Bhutan, Assam in the east, Kochbehar South. Darjeeling and Uttar Dinajpur district in the West. The tea growing area in Jalpaiguri district is known as Dooars and the plains of Darjeeling district known as Terai. The Dooars lies between 26°16' and 27°0' North latitude and between 88°4' and 89°53' East longitude. Looking like an irregular rectangle, the region is bounded in the north by Bhutan and the district of Darjeeling , on the south by the district of Rangpur of Bangladesh and the district of Koochbehar on the West by the district of Darjeeling and Bangladesh and on the east by the Eastern Dooars in Assam which forms part of the district of Goalpara, the right bank of river Sankosh from the demarcation line. The Dooars region is fully covered by Jalpaiguri district and district has been so named after its principal town Jalpaiguri. The name Jalpaiguri is said to have derived from 'Jalpai' or olive tree and 'guri' or place meaning thereby, the place abounded with the olive trees. The names Jalpaiguri might as well be

associated with 'Jalpes' i.e. 'Siva' the presiding deity of the entire region from the time immemorial. Total area of the region is 6227 sq. kms.

The Dooars not so much known to the world, the Dooars valley stretching from river Teesta, Taursha, Raidak, Kalajani and Sankosh over a span of 30 kms forms from major part of Jalpaiguri district. Derived from the world 'doors' (doors to Bhutan) this region also forms a gateway to the hill stations of North Bengal, Sikkim, Bhutan and North-Eastern States. The dense natural forests interoven with lush green tea gardens are cries crossed by the above rivers and their innumerable tributaries trotting and rolling down from the hills. The entire region is served with a network motorable roads running through the deep forests and tea gardens. A meter gauge rail service connects Siliguri and KoochBehar via Alipurduar. A journey itself by rail or on road through this region gives immense delight to both the mind and the eyes.

The region lies under the Jalpaiguri district of West Bengal and the administrative unit of the state came into being on 1st January 1869. The present district is comprised of the Western Dooars (Since 1865) and the then police stations Jalpaiguri and Rajganj of Rangpur district (since 1869). It may be noted that a portion of present Jalpaiguri was a subdivision in the Rangpur district now in Bangladesh (from 1854 to 1869). Historically, the development of the district started only after the growth of the tea plantations which begun in 1874-75. The Western Dooars which had been once a very thinly populated forest area,

LOCATION OF DOOARS REGION IN WEST BENGAL

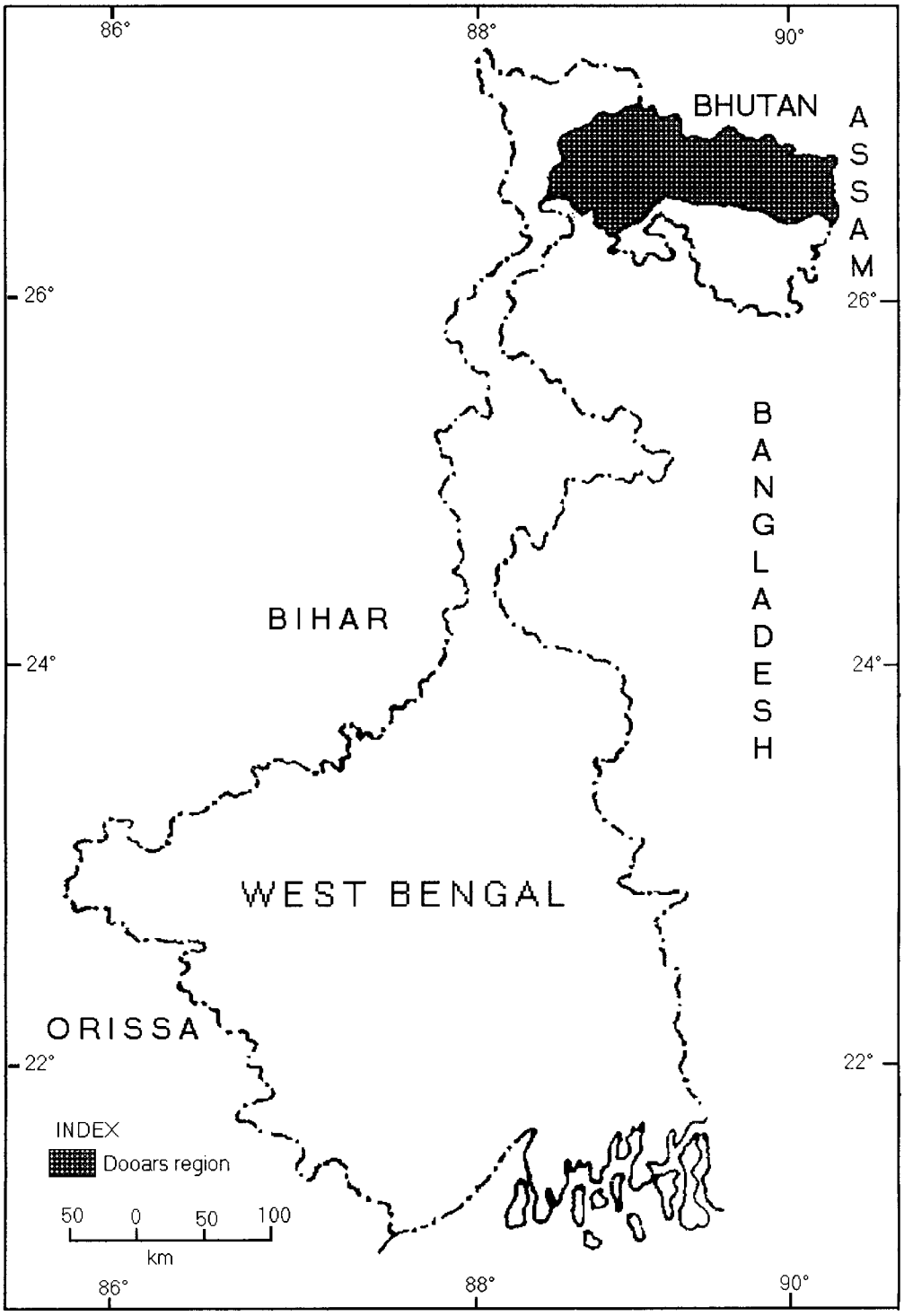

Fig. 1

became gradually populated with the development of inhabited villages, tea gardens and small factories.

Data Base Methodology

The study is fully based on secondary sources of data which has used census hand book of Jalpaiguri district (study area). The analysis has been restricted up to 1991. The census data of 1991 and 2001 has been taken for the socio-economic analysis while the census data of 1991 has been used to measure the degree of dependence of tea garden people through correlation matrices. Besides, some of the relevant data i.e., District Gazetteers, available through other sources have also been used. Special tables and charts on socio-economic life of the study area have greatly enriched the data-base.

Various statistical and geographical techniques of analysis, association and representation have been used to analyse, associates and represent the data.

1. The association and correlation of the data have been done through;

   (a) Carl Pearson's coefficient of correlation technique by using the formula;

$$r = \frac{n\left(\sum XY\right) - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left\{n\sum X^2 - \left(\sum X\right)^2\right\}\left\{n\sum Y^2 - \left(\sum Y\right)^2\right\}}}$$

r = Coefficient of correlation

n = Total Number of Variables

X = First variable

Y = Second variable

B). The data representations have been done through;

i. Bar Diagrams

ii. Ogive and Frequency Curves

iii. Line Diagrams

iv. Choropleth and Isopleth Mapping

Geological Structure

To the north of West Bengal stands the East-Himalayas as a natural backdrop. A vast texture of dense forests teeming with wildlife, unending tea gardens, Babbling rivers, interspersed with sleepy or busy settlements, constitute a fascinating tourist destination.

The great alluvial plain occupies a synclinorial depression between the Peninsular India and the eastern front of the Himalaya. It is not totally burried underneath the alluvium which is composed of the sediments borne down by the rivers of the Himalayan system. The huge network of these rivers and their tributaries have been working together, since the uplift of the Himalayas, to give the plain it present form.

Topographically, it is rather homogenous and featureless strength of level land which gradually and gently slope from west to east. The monotony of the plain is only occasionally broken by isolated patches of low hills which crept out in the form of islands from the surrounding defficient spread of alluvium.

The Dooars region may be divided into two major zones (i) the zone of older alluvium known as Bhangar (ii) The zone of newer alluvium known as Khadar, belonging respectively to pleistocene and recent times of the quarternary era. The alluvial deposits of the Dooars consists of sediment, silts and clays occasionally intercepted by gravel belts mostly in the region of stiff clay. The bhangar deposits as a rule occupy higher ground than the Khadar lands. The former forms of greater part of the region and occupies a level land which is free from river floods, while the latter occupies the flood plains of the rivers and is always liable to inundation during the rains.

The Dooars valley is specially noted for its wild life sanctuaries, the most notable of which are the National Park of Gorum (75 km from Siliguri), Chapramari forests (68 km from Siliguri).The Buxa Tiger Reserve (200 km from Siliguri) and the Jaldapara Sanctuary (124 km from Siliguri). These sanctuaries abound in a fascinating diversity of flora and fauna. The vast texture of massive trees sheltering varieties orchids and resounded with echo of birds and wild animals make it's a veritable paradise for lovers of nature and eco-tourism Jaldapara wildlife

sanctuary and Garumara National Park are habitats of the rare-one-horned rhinoceros, the mightly bison, leopar spotted deer, sambar, log deer, reptiles, huge wild tuskers, wild boars and the revest variety of animals and birds including plenty of peacocks. Elephant riding through the Jaldapara forest in search of wild animals, particularly the one horned rhinos, become a craze among the tourists to this area. The region include Layanti (30 km from Alipurduar) a beautiful spot encircled by Jayanti River and hills around, Bhutanghat (45 km from Alipurduar) famous for scenic beauty beside river rade bordering Bhutan; Buxa fort (30 km from Alipurduar) famous for the ruins of the detention camp used by the British Government detaining freedom fighters of our country. Rajabhatkhawa (15 km from Alipurduar), attractive for the nature information center, Murti (72 km from Siliguri) beside Murti river, attractive for the forest resort. Malbazar (52 km from Siliguri) attractive for tea gardens and scenic spots around and as a base of starting package tours to the hills and other places around Chalsa (61 km Siliguri) famous for scenic beauty and the star category resort. Teesta Barrage (57 km from Siliguri) emerging and boing Samsing (81 km from Siliguri via Chalsa) beside Jaldhaka river, attractive for scenic beauty, orange plantation and forest resort. Toto Para (22 km from Jaldapara) a small village on the bank of river Torsha near Bhutan Border, famous for the Dooars aboriginals. The Tots, Phuntsholling (161 km from

Siliguri via Jaldapara) on the border of Bhutan a major gateway to Bhutan.

The Drainage System

The drainage of Dooars region comprises the Teesta, Taursha, Raidak, Jaldhaka, Kaljani rivers in the Brahmaputra basin. But in all over the state of West Bengal falls under the 3 major river basins.

1. *Brahmaputra Basin*
2. The Ganga Basin
3. The Subarnarekha Basin

These rivers are rising in the Himalayas and pass through the Siwalik ranges, enter the plain from North East to South direction. Both of them are known as the master streams because of they possess sufficient water through out the year. Most states in India are fortunate to have one hill resort, but West Bengal the gateway to the Eastern Himalaya is surrounded by may resorts.

The principal rivers of the region are the Mahananda, the Teesta, the Jaldhaka, the Torsha, the Kalajani, the Raidak and the Sankosh, but the minor belts canals and water ways are the Saun, the Karatoa, the Chaol, the Talma, the Jamuna, the Panga, the Karala, the Chukchuka, Rukruka, the Gadadhar, the Dhardhara, the Dharla, the Lish, Gish, Chitijhora, the Murti, Chel, Jiti, the Galandi, the Duduya, the Dam Dima,

the Tusati, the Mujnai, the Buritorsha, the Sanjal, the Sili Torsha and the Jainti deserve mention.

The region in the north comprising the district of Darjeeling is cut through by deep gorges of the Teesta which flows from north to south between mountainous banks rising two to three kilometers above the stream. The Teesta on debouching into the plains south of Darjeeling at Sevoke, flows in a mighty stream on straight line towards the southeast until it pours its waters into the Brahmaputra in Bangladesh. Other rivers, smaller than the Teesta rising in the Himalayas are Jaldhaka, the Torsha, the Sankosh and the Raidak.

Of these the Taursha is the most turbulent. These rivers, carrying the back of the monsoon waters of the huge catchments area of the Himalayas. During the dry season they are navigable in the plains below. The Mahananda rises from springs in the Dow Hill forest, below Darjeeling town falls in the spectacular cascade named Pagla-Jhora in the sloping plains of southern Darjeeling district and fed by three other similar rivers the Mahanadi, the Balason, and the Machi runs a zig-zag course through Malda district in to the Padma in Bangladesh. This region the Dooars is the gateway of mountains. Western Dooars is the part of the tract which falls within the district of Jalpaiguri. There are eleven duars or passes to Bhutan from India. This region has been a crucible of numerous ethnic groups.

Soils

Soil is the thin surface-layer on the earth, comprising mineral particles formed by the breakdown of rocks, decayed organic materials, living organisms, water and air. Soil is formed under specific natural conditions and each of the elements of the natural environment contributes to this complex process, described by the soil scientists as the process of pedogenesis.

The soils of Dooars region are mainly acidic and alluvial in nature and fall into two distinct divisions:

1. The Old Alluvium
2. The New Alluvium

The soil of the region is alluvial and forms almost a uniform topography and lithology. The former are found in narrow ribbon like flood plains of the rivers and the latter occupy the higher grounds of the various interfluves which traverse the Dooars. The occurrence of different soils in the region is often followed either by lack of one property or the other. The minor variation in certain properties provides the basis for the classification of soil types. Despite the broad uniformity of soil types all over the Dooars, there are certain notable inter district variations of texture and chemical properties of the soils. In the district of upper part of Jalpaiguri soils are mainly acidic, and in some places sandy, giving rise to crops not requiring retention of a great deal of

moisture. The soil of major portion of the Central part consists of loam. However, the soil is occasionally interrupted by dominant alkaline soil content mainly in Dhupguri, Falakata, Bhakti Nagar, Kalchini subdivision. The soils possession with main characteristics features of the acid type found in Malbazar subdivision. The soils of Dooars have been classified into three broad zones, namely:

(a) Light texture, soil generally found in the western and upper Jalpaiguri district.

(b) Medium texture soils commonly found in the central part of the region and

(c) Heavy soils mainly found in the lower part of Dooars.

Here the sands are predominantly of a finear nature. Broadly the soils can be put under four categories.

1. Dark clay soils
2. Clayey soils
3. Loamy soils and
4. Sand soils

Climate

The climate of Dooars region is characterised by a seasonal rhythm, which is produced by the reversal of prevailing winds which

takes place twice in a year. In one part of the year when the Northeast monsoon is prevalent, the air is generally cold and dry as compared to the other part. When the southwest monsoon is prevalent, the circulation of the air over the plain is experienced from East to West being moisture laden and brings copious rain.

During the season of Northeast monsoon, the pressure gradient is not very steep and the velocity of wind does not exceed from 3 to 4 km/hr. During the season of Southwest monsoon, the pressure gradient is sharp and winds below with considerable force. The seasonal rhythm of monsoon reversal is well marked and a slightest variation has an adverse impact on agricultural operations. With comparatively greater incidence of winter rain, the region distinguishes itself from eastern plain. The Dooars area receives from 70 cm to 100 cm rainfall annually of which about 90 per cent occurs during the months of July to August.

The climate of the Dooars region, is characterized with four distinct seasons:

1. The cold weather season (December to February)
2. The hot weather season (March to mid-June)
3. The season of rains (mid June to September)
4. The season of retreating monsoon (October to November)

Winter Season

Winter season is marked by a fall in temperature and prevalence of dry and chilly westerly winds with clear skies. The months of December and January are the coldest in which the maximum and minimum temperatures some times fall as low as 22°C and 17°C for a short period. The cold waves coming from the Himalayas, also bring a fall in temperature. The winds flow normally from West and Northeast to East and Southeast. These winds are dry and light and generally blow at an average speed of about 32 km per hour. During the months of January and February Western depressions enter India through Iran, Afganisthan and Pakistan and more eastwards up to West Bengal.

The total rain occurring during winter season does not exceeds from 6 cm to 8 cm and the amount of rain decreases from West to East. The winter rains are not sufficient for the crops grown in Rabi season especially the high yielding variety of wheat, which requires at least 4 or 5 waters through irrigation.

Frost and hails sometimes occur during these months. Frost is locally known as pala, usually occurs early in the month of January, when the rabi crops are immature and liable to injury. Hail may occur and it can damage the plants when they are the stage of flowering. In these months heavy mist and fog locally known as Kohra often occurs

at night and lasts until the sun rise. Occasionally, the fog becomes so intensive and if it is prolonged may damage the rabi season crops.

Summer Season

The hot weather season is characterized with an increasing temperature and lowering of pressure. The hot weather season extends over the months of March to June. Since the beginning of the increase continuously and the nights still remain cool. The months of May and June record exceptionally high temperatures as high as 45°C and even more than 47°C. The days are characterized with intensive heat, dry air and low humidity. In hot season winds blow from west, northwest to east, southeast. In the months of May and June a hot wind known as loo originates as a result of the heating of the surface air and rapid increase of temperature. The occurrence of dust storms associated with the thunderstorm locally known as aandhi usually occurs in the afternoons and are accompanied by squally winds, thunder storms blending dust and sometime associated with rains. The average rainfall for the hot weather season is very meager ranging between 18 and 62. The rainfall in the hot weather season if it occurs helps in the early ploughing and sowing of land for some kharif crops.

Rainy Season

The season of general rain generally commences from the second week of the month of June and continuous upto October. Due to

excessive heat over the land area, a low pressure develops in the northern part of India and by the middle of June, it brings a complete reversal in the air movement. The winds begin to move from the Indian Ocean to landmass in the southeasterly direction. The moist winds originating in the Indian Ocean bring heavy downpours which reduce the temperature from 44°C to 25°C in the month of June to about 32°C and recorded to about 26°C in the month of July. The relative humidity increases and is recorded about 80 per cent in the month of August. The average rainfall received is recorded to the extent of 75 cm and the amount decreases West and Southwards. In the month of September, the rains normally slacken and rainless intervals become longer. The relative humidity still remains high.

Cultural Setting

Under the system of 'verna' the people of Dooars were divided into 4 castes viz. Brahmins, Kchatriya, Vaishya andSudras. Brahmins were considered to be the most sublime. The bulk of the population is still ignorant, illiterate, superstitious and old taboos are overwhelming in the society. The masses, particularly those living in villages, regard innovations, even today with skepticism, suspicion and dislike. The Aryan settlement was followed by the development of ancient Hindu civilization which later on, was much influenced by the religious philosophies of Budhism and Jainism. The elements of Muslim culture began to appear on the social scene of the area and by the close of 18th

century they became widely and strongly deep rooted in the socio-cultural setup of the region.

After having attained freedom from the British rule it was felt and badly realized that ignorance and poverty and existing in the roots of society. Thereafter it was claimed that steady birth rate, shortages of basic of food stuffs as well as growing unemployment are grinding the whole society. It is also gradually lowering the already poor standards of living in the Dooars consequently elsewhere in the country. The *Dooar* has composition of multi-religious society. The followers of all principal religions, namely, Hinduism, Islam, Christianity, Sikhism,

Budhism and Jainism are found in various proportions in the population of the region. Hindus are by far the most numerous. The caste system still strongly practised among Hindus, it plays an important role everywhere, more especially in rural areas. Family alone stands as a basic component of the society. In major parts of the region joint family system plays a pivotal role in both rural and urban societies, but 1n the latter, individual family system is gradually gaining ground, while in the former, joint family still holds principal place in the society. Still joint family is the main characteristic feature in the Dooars. In average, family it plays an important role in the socio-economic life of the village community. Marriage is regarded as natural and necessary, and usually arranged by the head of the family or the elders.

But in urban areas marriage is somewhat quite lately performed, often maintained primarily on personal choice. In general, the early marriages are very common among the village communities. The region is agriculturally self sufficient but by world standards it is nutritionally poor and backward. Owing to a large stagnation in the economy the region is quite poor in the standard of living of the people. As a consequence of regional disparity there exists a sharp contrast between the rural and urban standards of living. Poverty is very common among different ethnic classes and in various groups of the population of the Dooars consequently food grains constitute nearly 82 per cent of the total food consumption, the total intake of calories hardly exceeds 2000 mark. Majority of the people are highly conservative and superstitious.

Fortunes and misfortunes to them are the reflections of the pleasure and wrath of the gods and goddesses.

The most significant out come of the impact of Muslim culture was the emergence of a new Hindustani language known as "URDU" later the elements of western society entered into the cultural set up with the establishment of British rule over India. After having attained freedom from the British rule it was felt and badly realized that ignorance and poverty and existing in the roots of society.

The most problem of the Dooars Region is the rapid and accelerating growth of its population. These region with a population of

3403204 persons (2001) and an area bout 6227 sq. kms is conspicuous on the population of India as regards the incidence of very high density which is of the order of about 547 persons per sq. km as compared to that of West Bengal 904 persons per sq. km.

The extensive rural base creates a very serious economic problem, particularly for there is little scope of reducing the existing and ever increasing pressure of population on agricultural land. Though the over all density of population is high and it is not even. With an agrarian base of economy this region is now passing through dynamic stage of demographic evolution owing to a precipitous decline in mortality due to improved health measures and sanitary conditions during mid-century and thereafter in recent decades.

Growth of population in any area has to be seen in the context of its vital rates. The growth of population has followed a three phased course: The first phase of progressive decline in line with all India pattern listed for two decades from 1901 to 1921 and was characterized by widespread attacks of epidemics and famines. Then during the twenties the population entered the stage of recovery and by 1931 it not only made up the losses of the past decades but also emerged to get a slight edge over the population of 1901. The result of improved health services and elimination of semifemine conditions, laid down the foundations of the third phase of relatively fast growth. Continued improvements in health services, especially after independence, caused the death rates to decline steadily while, despite family planning campaigns, the birth rates continued to be high. Consequently, the

population went on increasing rapidly and steadily during the third phase. It had wide range of variations from 1901 to 2001.

The decadal growth rate of Dooars region is 21.52% during 1991 to 2001 where the state decadal growth rate is 17.84%. Generally very high percentage occurred in those area which had big urban centers, whereas low percentage occurred in small urban centers.

SETTLEMENTS

Rural Settlements

The distributional pattern of rural settlements and their types in the region are intimately related to its dominantly alluvial morphology and the predominantly agrarian economy. The nature of terrain, type of soils, facilities of water supply and means of transport have also an important role in the development of settlements. In the Dooars high fertility of soil, more bhangar lands, adequate irrigational facilities and well developed means of transport have given rise to almost uniform distribution of settlements. On account of over flooding and changes in the river courses, villages are mostly hamleted and are often located at the points of geographical advantage. The distributional pattern of villages is governed by the availability of the level nature of the plain. The large ravine tracts are almost devoid of any settlement. In the Mitiali subdivision, the settlement sites generally follow the drainage lines and the nature and degree of slope. Compact type of settlements are widely distributed and are most dominant in the Banarhat region. Such

settlements are common in the North Western level plains and most part of the Mitiali region. The semi-compact settlements are new additions due to jungle grants or extension of agriculture. Newly built roads have also contributed to the growth of these hamlets. Besides these, the linear settlement along Nagrakata Block and circular pattern of settlement in the Dhubguri region are noticeable. Because of the favourable combination of level topography, fertile soil and sufficient water supply in the interfluvial uplands, rural dwellings are collectively grouped into large compact villages. In the central part of the region, the margins of the usar lands are also studded with large and medium compact and semi-compact settlements.

Though the region as a whole, is predominantly rural with 2484338 persons or 73.2% of the total population, living in 756 villages of varying sizes (census 2001). Most of the population lives in overgrown villages is also considerable. As compared to the previous decades, the remarkable feature of the growth of the rural population in this region is that the percentage of population living in small size village has decreased very much. The villages of this size suffered a heavy loss in all the Panchayats of the districts of the region. The total rural population is higher in the subdivision such as Mal, Dhupguri, Maynaguri.

Urban Settlements

The urban population is very unevenly distributed in the region. The degree of urbanization increases from North-West to South-East. Out of the total population of 3403204 in 2001, 918866 persons (27% of the total) were enumerated as urban, living in 13 towns scattered all over the region namely 1. Banar Hat 2. Jaygaon 3. Uttar Latabari. 4. Gairkata 5. Mainaguri 6. Dhupguri 7. Falakata 8. Paschim Jitpur 9. Chechakhata 10. Alipurduar 11. Bholardabri 12. Sobhaganj 13. Uttar Kamakhyaguri.

During the18th and19th centuries, the area witnessed rise and fall of a number of local chiefs resulting into an atmosphere of war and horror. All this accounted for the region of compact villages grouped along defence points which, in due course of time, developed into local markets. Later on, the development of railway network, irrigation canals and the electric grid paved the way for an economic prosperity of the area and thus these urban nuclei got impetus to grow.

In Jalpaiguri, the head quarters of the district is the highest urban population. It is mainly because of the presence of administrative head quarters. The medium urban populated towns are Alipurduar, Mainaguri, Dhubguri, Falakata. The low urban populated towns are Gairkata Sobhaganj, Uttar Kamakhyaguri, Jaygaon. Most of the towns and cities of the region are multi-functional. In several towns like,

Alipurduar, Falakata Mainaguri etc. services come next to industries in employment. Rest of the large urban centers are multi-functional where trade and commerce are prominent.

Rural Urban Relation

Rural urban relation is a phenomenon of great significance where about 75% population reside in villages, which are dependent upon the towns and cities for different needs. It is the task of our cities to provide infrastructure at all levels in the villages. Most of the population of Dooars region is residing in villages so they are directly or indirectly engaged in agricultural activity. Therefore, there is a close relationship between villages and towns for their requirements. So there is a need to take off the pressure of population from the agricultural sector and divert it to other sectors of economy like secondary and tertiary activities.

Industries

The district is conspicuous for the absence of mines. The rocks found in the district are mainly the slates, quartzites and dolomites. The dolomite limestone bands found in the Buxa Duars form the most important mineral deposit of the area. It is found all along in the hill range from near Lapchaco to Raidak. The lignite is found in patches throughout the entire stretch of the west side of Jayanti river. The ion ores of low to medium grade are found near Gaopota. The lime obtained from dolomite is of superior quality and having adequate

tensile strength. Deposits of magnesium, sulphate are found at some localities in the foothills region.

Varieties of small scale and cottage industries are found in the district. They are rice and oil milling, wheat and species grinding, stone-crushing, saw mills, automobile workshops, engineering workshops, carpentry, hosiery, leather works, bakery making of steel trunks, manufacture of candles, brick and tiles, suitcase making, bidi making, pottery, toy making cane and bamboo works, clay modeling, tea-chest manufacturing etc.

There are the following registered working factories with number in each type of industries in the region.

S.No.	Name of the Industries	Number
1.	Flour milling (by power machine)	2
2.	Rice milling (by power machine)	10
3.	Bread making	1
4.	Manufacture of biscuits, cake etc.	
5.	Manufacture of mustard oil, ground nut oil etc.	1
6.	TEA Processing	141
7.	Manufacture of ice	1
8.	Other food processing & activities	1
9.	Cotton textiles not elsewhere classified	1
10.	Manufacture of readymade garments	1

11.	Manufacture of plywood and veneer	1
12.	Sawing and planning of wood (other than plywood)	54
13.	Manufacture of plywood chest for tea etc.	1
14.	Manufacture of baskets made from bamboo, cane, reed and grass	1
15.	Bamboo, cane and reed furniture	1
16.	Envelope printing, picture post card printing, embossing etc.	1
17.	Manufacture of lime	1
18.	Manufacture of structural	3
19.	Manufacture of drums, tanks, rails and metal containers	1
20.	Manufacture of utensils	2
21.	Manufacture of general items of no-electrical machinery etc.	2
22.	Manufacture of general jcbbery engineering etc.	3
23.	Generation and transmission of electric energy	6
24.	Pipeline transport	1
25.	Storage and warehousing not elsewhere classified	1
26.	Educational services rendered by technical or vocational colleges, schools and other institution	1
27.	Repair of motor vehicles and motor cycles	6
28.	Repair of enterprises not elsewhere classified	1

Source: Encyclopedia of Distt. Gazetteers

Position of Jalpaiguri in the West Bengal

S.No.	Name of District/Sub Division	Civic Status	C.D. Block/PS Code	Total No. of Gram Panchayats in C.D. Block	Of Mouzas District/CD PS Wise	No. of villages in C.D. Block/PS	Total No. of villages in Dist. C.D. Block
1.	Rajganj	C.D.	0001	12		29	29
2.	Bhaktinagar	P.S.	0001		12	12	
3.	Rajganj	P.S.	0016		17	17	
4.	Mal	C.D.	0002	12		106	106
5.	Mal	P.S.	0003		106	106	
6.	Matiali	C.D.	0003	5	31	31	31
7.	Mitiali	P.S.	0003		31	31	
8.	Nagrakata	C.D.	0004	5		34	34
9.	Nagrakata	P.S.	0004		23	23	
10.	Banarhat	P.S.	0005			11	
11.	Dhupguri	C.D.	0011	18		103	103
12.	Banarhat	P.S.	0005		38	38	
13.	Dhubguri	P.S.	0013		65	65	
14.	Maynaguri	C.D.	0012	16	86	86	86
15.	Maynaguri	P.S.	0014		86	86	
16.	Jalpaiguri	C.D.	0013	14	29	29	29
17.	Jalpaiguri	C.D.	0013	14	29	29	29
18.	Jalpaiguri	P.S.	0015		29	29	
Sub Division Alipurduar							
19.	Madarihat	C.D.	0005	10	50	50	50
20.	Birpara	P.S.	0006		21	21	

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Chapter-II

An Overview of Literature

CHAPTER-II

AN OVERVIEW OF LITERATURE

In many developing, countries like India plantation economy has no doubt accelerated the process of economic and social development. Tea is one of the important plantation crop for India as it plays an important role to earn hard currency. As India is one of the leading exporters of tea in the world market. Tea plantation has marked-impact on the socio-economic life of the people of the plantation region as well as its surrounding region in general and plantation workers in particular.

In this chapter an attempt has been made to look at the works done earlier on the impact of tea plantation on socio-economic life of the people. Here, emphasis has been given to cover the literature on various aspects of tea plantation in Dooars and other regions.

The socio-economic conditions of the farmers, the living condition of the peoples and tea plantation workers, the impact on immigrant tea plantation workers, the health and sanitation of the labours, cultural dimensions of the people and tea plantation workers and inequalities among the communities, have all been encompassed.

Nair (1987)[1], in his article 'Darjeeling Tea Works' stated that tea industry was considered as an engine of growth of Himalayan region. Many tea gardens have been already closed down in the region and a

good number of others are on the verge of total collapse. This industry being the mainstay of hill folks and the backbone of the hill economy has direct and profound economic and socio-political implications in the hilly areas of Eastern Himalayas. The living conditions of workers and more particularly the womenfolk are appalling. Till recently, there was no organized labour movement and the workers were all unorganized and helpless.

Bhadra (1997)[2], gives a comprehensive account on "Tea plantations in India provides employment of over 9,24,239 workers. Roughly about 7 lakhs of workers are found to be working in the tea plantations of north-eastern India. These workers belong to various tribal communities of Bihar, Madhya Pradesh, Orissa and Madras. Due to scarcity of workers in the locality the employers had to recruit them from such a long distance." In response to the manpower requirement during the 19t century planters recruited labourers from outside and thus created an immigrant enclave community having almost no interactions with the neighbouring societies. The bulk of the labour force consists of Oraon, Munda, Santal, Baraik, Khera, Ghasi, Gond, Mahali, Sabar, Khond, etc. except a few Nepali workers of tea plantations of Darjeeling hills. The wider social background of plantation workers of north-eastern India has a considerable sociological importance.

In Bengal 44,279 persons were employed in tea plantations in 1921 and 61,540 were employed in 1940. After 1950s tea plantations

stopped immigration of workers due To Whom It May Concern availability of surplus labourers in the locality. In 1950 number of labourers was 323,034 which reduced 383,593 in 1954. Gradually, this number declined To Whom It May Concern:187,612 labourers in 1967 and increased to 228,705 in 1980 (Bhadra 1997)[3].

Prasanneswari (1984)[4], asserts that the labour force engaged in the tea plantations of Jalpaiguri and of the Terai region of Darjeeling district are predominantly Adivasis and Nealis came as indentured labour during the pre-independence period. The ratio of Adivasis and Nepalis varies from one garden to another. As in most plantation in the tea gardens to the labourers live largely within the garden itself.

Sarkar and Bhowmik (1998)[5], in their study "Trade Unions and Women Workers In Tea Plantations" revealed that in 1994 the tea plantations in India employed 10,28,694 permanent workers of whom 4,96,505 were women and 4,80,067 were men. Adolescents and children (workers below 18 and below 14 years respectively) totalled 52,122. The figures for West Bengal for the same year were, 2,58,448 workers with 127097, women, 118482 men and 12,097 adolescents and children.

Bhowmik (1980)[6], attempted to establish a sociological definition of the plantation system in the Dooars, North Bengal he revealed that "the uniqueness of a plantation system lies in its social and production

relations. These no doubt have changed since the days of plantation economies of colonial times and are changing even now; but the change in these relations is determined by the context of isolation of the plantation from the wider social system, the influence of the working class organizations among the workers and the role of the State."

Bhowmik (1980)[7], further states that the production relations in the plantation system change when there is a change in the wider socio-economic formation. The socio-economic formation of the plantation industry, with its low level of technology and its heavy dependence on manual labour, is significantly different from that of other industries.

Mukherjee (1997)[8], in his study "Dooars Plantation Economy Evolution and Pattern" describes that the "impact of the plantation economy on the society and economy of the Dooars is not an unmixed blessing. Here also the typical features of the colonial pattern of economic development was observed."

"The impact of plantation investment on the local economy of the Dooars is apparently positive. A structural change took place in the Dooars economy. Dooars economy was a typical natural economy before the plantation era. This natural economy was converted into monetized economy through this structural change. One of the principal effects was the commercialization of local agriculture. Roads and

communication system owed its development to plantation" (Mukherjee 1997)[9].

In the words of Mukherjee (1997)[10], further reveal that "the most significant of all such changes is the demographic change. The entire labour population of the Dooars was immigrants From Chota Nagpur and Central Province of India. Ethnically and culturally they were quite distinct from the local population. This inflow of immigrant labour population had changed the demographic character of the Dooars."

Mukherjee (1997)[11], in his paper "Plantation Economy Evolution and Pattern" stated that 'another important side effect of this change is the vertical transition in the occupational pattern of the Meches. The Meches who took shelter in the eastern part of the Bengal Dooars took up settled cultivation as occupation against shifting cultivation practiced by them hitherto. Many of them still practiced the life-style of primitive form-fruit gatherer and hunter. They also become settled cultivators.'

Bhadra (1997)[12], in his study "Impact of Tea Plantation on the Agrarian Structure in Assam" revealed that 'the plantation economy has adversely affected the economic condition of the neighbouring agrarian communities by grabing their lands. Particularly the worst impact is noticed among the local peasants who live on subsistence farming. Perhaps everywhere the three possible factors–expansion of

plantations, labour migration and land reforms in relation to plantations are responsible for the decline of peasants economic condition.'

Sarkar and Bhowmik (1998)[13], asserted that despite forming half the labour force in the plantations women workers have remained marginalized in the trade unions. There are a number of reasons for this situation. The social status of women and their low level of literacy keep them in their inferior status. The inferior status of women in society is further reinforced by their inferior status at work where they are rarely promoted to the sub-staff.

The plantation women workers do not have any role in the decision making process in the Adivasi Panchayat. Trade union leadership from among them has not yet emerged. Although women workers are members of trade unions they hardly participate in the union activities. Educational attainment of women workers is very low. This has further helped to perpetuate the lower status of women workers. They are totally ignorant about the role of modern education in improving the status of women (Bhadra, M 1983)[14].

Bhadra, M (1997)[15], in his paper "Ethnicity and Inequality among the Workers of Tea Industry in West Bengal" stated that 'If we study the North Bengal tea plantation society we find that the only things common to the plantation workers before and after immigration are dire poverty, illiteracy, ignorances, less organized and isolated families. Those ethnic

communities are said to be still adhere to its distinctive culture, religion and language to some extent. The tribals possess their own sub-cultures with particular social and cultural attributes in their upbringing, socialization and aspirations. Although each ethnic group tends to become a separate social entity vis-a-vis other groups, internally some groups are highly differentiated.

He Bhadhra, M (1997)[16], concluded that "Ethnicity and Inequality among the Workers of Tea Industry in West Bengal" can be explained in combination of racia, ethnic, economic, cultural and organizational criteria. No one of these criterion by itself provides an adequate explanation; it is their total interaction which is significant. The plantation workers however is not a homogenous workforce. But the whole of the tea estate, its social life, industrial organization and institutions, pattern of the communities may be seen as comprising a single universe. This paper examine the mutual appropriateness of the ethnicity of the plantation systems, the work and social life describe the ways and means by which each affects and affected by the other.

Kar (1981)[17], in his study on 'Health and Sanitation among the tea labour' concluded that 'in a large number of gardens the medical facilities are far from being satisfactory. In the hospitals and dispensaries, they do not have the stock of prescribed medicines nor do they have the prescribed instruments. Some of the inadequacies frequently met with are as follows:

There is no separate examination room; There is no full-fledged labour room worth the name; There is no table for minor operation worth the name; male and female patients are kept together; There are no separate pre-natal and post-natal wards and the mothers or the prospective mothers are kept together with other patients; Poor sanitary arrangements.

Kar (1981)[18], further stated that 'the tea labourers have been found to suffer from a large number of disease, Gastro-enteritis, respiratory trouble, rheumatism, skin disease, anaemia, diarrhoea, dysentery and gastric ulcers etc. are common diseases among them. Tuberculosis and maleria are also found in the people. A number of diseases, e.g., diarrhoae, dysentery, gastro-enteritis and skin disease to various types are said to be caused due to their in sanitary condition and habits. Frequent use of cheaper varieties of synthetic garments is also though to be one of the causes for higher incidence of skin disease among them.

Kar (1981)[19], further argued that 'the problems of development and welfare of the tea labour need a two-way approach for finding a solution. Along side the provisions for proper health and sanitation facilities, the people need to be carefully motivated for availing these facilities in time.

Bhadra and Chararvorty (1997)[20], in their paper "Cultural Dimension of Health of Tea Labourers" argued that 'Literacy level in a population has a positive relation with the level of rational health and hygienic behaviour of the population and also acceptance of modern medical behaviour. A Report on Status Survey of UNFPA/UNICEF Integrated parasite Control and Family Welfare Project Dooars Branch ITA (1994) showed a definite positive relationship with literacy and adoption of family welfare services. The level of literacy in the two types is 33%. Much lower than the State's average of 45%.

Health culture of a society comprises of concepts, ideas, customs, habits and practices related to countering diseases and maintenance of health. Thus, system of beliefs relating to disease causation, methods of treatments, sanitary habits, personal hygiene, food habits and child rearing practices all form an integral part of health culture of a community (Bhadra and Chakravorty, 1997)[21].

They further asserted that 'in these tea estates most of the houses are of kuchcha type. Pucca hosues are few in number. The pucca hosues are two roomed with one window in each room. The rooms are not spacious enough for a family of four. Slightly better of among the workers have been found to have constructed a kuchcha room for use as a kitchen. Others use a corner of living room as a kitchen (Bhadra and Chakravorty, 1997)[22].

Chapter-III

Conceptual Framework

CHAPTER-III

CONCEPTUAL FRAMEWORK

The present topic of the research is "Impact of Tea Plantation on the Socio-Economic life in Dooars Regions of West Bengal." Accordingly, the author is to assess the impact of Tea Plantation on the socio-economic development of the Dooars Region. In order to carry out further research analysis at this stage, it becomes imperative to establish certain definitions and related concepts about the theme of the research as out lined below.

1. Meaning of the Development
2. Types of Development
    (a) Economic development
    (b) Social development
    (c) Sustainable development
3. Measures of Development
4. Socio Economic Indicators

The Concept of the Development

The term "development" is used in many disciplines at present, and serves, in practice, to define a recognized field of research. It is a

dynamic concept. It has different meaning for different people. In fact, there is no agreement on the meaning of "development" among planners and thinkers either. Some people say it means increase in income other lay emphasis on employment, income, quality of life, happiness and so on. Still other gives stress on meeting the basic need of the life of people. It is indeed so many things to so many people. The only thing on which every one agrees is that development is necessary and every one wants it, although in his own image and perhaps in his own way. Academician, politician and economist all give different interpretation but all of them agree that development improves the standard of living of people. It is different from economic growth because economic growth is the term indicating the direction of development. The availability of facilities and social services to the people in a spatial framework reflects the quality of life lived here. Higher the accessibility to the services, the better would be the environment. The socio-economic infrastructural facilities play a catalytic role in the process of development of a region. Hence greater emphasis should be placed on the basic social services, facilities and amenities like education system, drinking water facilities and days of markets.

Economically the "development" is taken to mean the rise in per capita income or gross national products (GNP) or the general economic growth. In broader terms development is viewed as the

evaluation of the economy from a stagnant, preindustrial state, characterized by low incomes with a predominance of the primary sector and the physical proximity of production and consumption to a dynamic diversified and integrated industrial economy. Development comprises a set of structural transformation which, once seriously begun, continuously transforms the economic life and much else over 100-200 years. Each of these structural transformation is at the same time economic and social. Each changes not only production and income, but also the location of people, their groupings, relationships, health, habitat work discipline and work place. In short it helps to bring change in their style of life.

Development will also be understood in the way it is conceived of UNESCO Conference 1976, it stands for the development of countries, the production of things, their distribution within the social systems or the transformation of social structure. These may be means towards the end but they should not be confused with the end, which is that of developing the entire human being.

Development is a multidimensional process. There are therefore, many interpretations of it. In geographical literature during the late 1970's and early 1980's there have come up certain works which attempt to define development. Notable examples include the works of Brook Field's. Robert Mabogunje Chisholm Harriss. Each peasant it own, very different view of development and each provides a particular

prospective from which further research can take its course. Mabogunje (1980) has identified four main ways in which the term development has been used: development as economic growth, as modernization, as distributional justice and socio-economic transformation. He argues for a long time following the second World War development was seen simply as economic growth it implied a rapid rise in productivity per capita and a changed economic structure. Hodder (1968) thus concentrated on economic development in his book on the topics, and Chisholm (1982) has recently described development as a "term used to signify an evolution of the economic structure accompanying expansion in total out put. He goes on to distinguish between 'development and modernization', the latter being seen as the social transformation of a nation. This is second way in which the word "development" has been used. It still in the sense of economic growth, came to be seen as part of a much wider process of social change described as modernization. Lipton (1977) has thus, for example, seen "development" as modernizing structural change. However, Mabogunje also pointed out a crucial aspect of this view of "development" as modernization in that to be modern meant to endeavour to consume goods and services of the type usually manufactured in advanced industrial nations. He goes on to observe that more recently development has been identified with distributional justice: as a way of reducing the poverty level among the masses, or, as it was more

succinctly put, satisfying their 'basic' needs (Mabogunje 1980). For this to successful the concept of accessibility was crucial and much attention was therefore paid to an analysis of the access of the poorest of the poor to 'resources' defined in the broadest terms. In his last a category of views of development Mabogunje suggest that scholars of a Marxist philosophical persuasion argue that the questions of distribution and social justice cannot be considered or resolved independently of the prevailing mechanisms governing production and distribution. This Mabogunje argues give rise to dependency theory, in which development and underdevelopment are seen as being totally interested and also to an emphasis on three broad issues. The fact that development is a human issue, its requirements of the full mobilization of society and the idea of development as a redefinition of a country's international relations. In this Vein Robert (1978) has advocated that "development is an interdependent process in which some countries and regions acquire a predominant place with in the division of labour, using coercion to organize production elsewhere, as in the case of colonialism or control of capital or advanced technology and markets. This situation is expressed in two related concepts that of dependency and that of the core-periphery relationship."

To these four basic concept of development Mabogunje has added his own, a fifth, which sees 'development as essentially a socio-spatial processes". He himself sees 'the development process a one of

the spatial organizations. The reorganization arises as a result of the fact that development implies the articulation of a new set of social goals.' While Mobagunje's classification provides a useful framework for viewing of nature of work done on development, it does not seriously question the use of the term development itself. For too long the concept of development inculcated a dangerous fias in the conceptual approach of academics and politicians alike.

In all the definitions of development by Mobagunje there has remained a thread of the old economic definition: that development, to a greater or lesser extent, implies increased productivity, higher level of consumption per capita and a shift from primary to secondary and tertiary economic activities. Development is normally equated simply with economic growth. Few studies attempt to grasp the more complex equation of social change. The concentration of attention on economic development is no doubt patently due to its easier measurement; how indeed is social development to be measured? In addition to the attention paid to economic issues, there lies the implicit assumption that, in general, development should take place along the lines of Western countries.

During the last two decades development studies have become a far more inter- disciplinary field of enquiry. Geographical approaches within this field have much to offer. Gould (1982) thus argues that "in the area of rural urban interaction geographers have, in the theories and

techniques at their disposal and in their appreciation of the needs for detailed data collection, a comparable advantage over other disciplines.' Likewise Mabogunje, in conceptualizing development as spatial recognization, has continuously emphasized the importance of a geographical awareness in development.

According to Jan Drewnowski (1966) development is a process of qualitative change and quantitative growth of the social and economic reality which we can call either society or economy. Because of the close inter-relation of economic and social elements no 'purely' social or 'purely' economic development is possible. Consequently, it is better not to speak of social development separately. It is a single process which is best called simply development. In the above definition Drewnowski, identifies socio-economic development with change in the quality of life and quantitative growth of various values. Development has been defined as a process of growth, expansion or realization of potential, bringing regional resources, into full productive use. Development planning has also been defined as "any action by the state whose purpose is to raise the rate of economic growth above that which would take place without any conscious effort.' Development planning is being done by the state., it has the dual purpose of economic growth and social structural change, it is comprehensive, covering every sector, region and aspect of life. The achievement of a state of development would enable individual to make their own histories and geographies

under conditions of their own choosing. In the series by studies by UNRISD, (1970), development identified with the levels of living and levels of welfare. There, in turn, are identified with the presence of better conditions of nutritions, housing, health, education, transport and so on. Thus, in the essence they also talk of the availability of goods and services.

Generally development is identified with the level of per capita real income. The objective of development is to raise the living of the masses of the people and to provide all human beings with the opportunity to developed their potential. Thus the definition clarifies that the development implies not only expansion in quantitative terms but also structural changes in the society and its economy as expansion proceeds. Structural change includes institutional, social and economic (sectorial as well as spatial) aspects. This implicit assumption behind the lumping together of all these aspects is that change in one element depend on and generates changes in all others. Secondly, development means changes in a desired direction and at a desired speed. The direction and rate of change will depends on goals and objectives of development. Thirdly development presupposes policy interventions direct or indirect in achieving the given goals and objectives.

Fourthly development also involves socio-psychological transformation of human beings to prepare them for the eventual as well as current benefits occurring from the changing socio-economic

structure of society, and finally, development involves, temporal, sectorial and spatial phasing and integration of planning.

Impact of Development on the Socio-economic Life of People

The study of economic development is one of the newest, most exciting and most challenging branches of the broader disciplines of economics and political economy. Although one might claim that Adam Smith was the first "development economist and that his Wealth of Nations, written in 1776, was the first treatise on economic development, the systematic study of the problems and processes of economic development in the Third World has emerged only over the past three decades are some who would never the less still claim that development economics is not really a distinct branch of economics in the same sense as is, say, macro-economics and micro-economics or public finance and monetary economics. Rather they would assert that it is simply an amalgamation of all these traditional fields, but with a specific focus on the individual economics of Africa, Asia, and Latin America.

We strongly disagree with this view point while development economics may draw upon certain principles and concepts from other branches of economics in either a traditional or modified form, for the most part it is a field of study that is rapidly evolving its own distinctive theoretical and methodological structure. We begin therefore by

contrasting modern development economics with "traditional" Western economics and them devote the bulk of this initial chapter to an analysis of those economic, institutional and structural factors, both domestic and international, that form an essential part of any analysis of development problem and prospects.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of "needs in particular the essential needs of the world's poor, to which overriding priority should be given, and the idea of limitations imposed by the state of technology and social organization on the environments ability to meet present and future needs.

The term sustainable development' has become widely used to stress the need for the simultaneous achievement of development and environmental goals. As long as its meaning is kept this unspecific, few people disagree with it. But as governments or international agencies develop projects or programmes to implement it, so the disagreements surface as there are so many interpretations as to what is 'development' and how it should be achieved, what constitutes adequate attention to environmental aspects and what is to be 'sustained' by sustainable development. Among the proponents of sustainable developments, there is a large gulf between those whose primary concern is meeting human needs (Adams, 1990). At present, the bias in most discussions

on sustainable development is towards conservation. Even within 'environmentalists', there is the gulf between those whose primary concern is protecting the natural environment from destruction or degradation and those whose concerns include reducing environmental hazards for human populations and promoting environmental justice for those people lacking a healthy environment and adequate natural resource base for their livelihoods.

The term 'sustainable' is most widely used in reference to ecological sustainability. But during preparation for the Earth Summit (held in 1992) and ever since, an increasing number of writers and international organization began to include such concepts as 'social sustainability', 'economic sustainability, community sustainability' and even cultural sustainability as part of sustainable development. Meanwhile, many aid/development assistance agencies were giving another meaning to the term sustainable development as this was the label given to ensuring that their development projects continued to operate and meet development objectives when these agencies external support was cut off at the end of the project.

Some of the literature about sustainable development discusses 'social sustainability' although there is no consensus as to what this means. For instance, some consider social sustainability as the social preconditions for sustainable developments demands social change, not 'sustainability' in the sense of keeping them going continuously.

Indeed, the achievement of most of the social, economic and political goals which are part of sustainable development requires fundamental changes to social structures including changes to government institutions and, in many instances, to the distribution of assets and income. This can hardly be equated with social sustainability.

There has also been some discussion of sustainability because of the need within human society to develop shared values perceptions and attitudes which help to contribute to the achievement of sustainable development. It is clear that development should include as a critical component a respect for cultural patrimony. Culture implies knowledge and a vast wealth of traditional knowledge of relevance to sustainable natural resource use and to development is ignored or given scant attention in development plans. But the term sustainability seems rather imprecise for the need to recognized the importance of culture and respect it within development. Culture is never static to argue that it should be sustained is to deny an important aspect, changing and developing nature.

Generally development is identified with the level of per capita real income. The UN Experts, identify 'development' with the level of per capital income. Thus an under developed country is one in which the per capita real income is low when compared with the per capita real income of the USA, Canada, Australia, and Western Europe. Though, this definition focuses attention on a very important characteristics of

underdevelopment viz., poverty, can by no means be considered wholly adequate. It may easily be open to a theoretical objection. A country may be poor and yet not underdeveloped in relation to its resources if the resources themselves are scanty and inadequate.

In some of the studies 'development' level is assessed on the basis of stages of economic growth. if one examines the characteristics outlined by Rostow, one can observe that countries with modern technology, high industrialization, modernization and new technology determine the level of 'development'.

Measures of Development

There are two important measures of development:

(a) Monetary and (b) Physical. This can be presented like the following:

Monetary Measure

Per capita income is widely accepted as a general measure of development. It is customary to identify whether a region has been backward or advanced in levels of development using the estimates of per capita income. According to this measure, regions which enjoy higher per capita 'income' are deemed to be more developed than states or regions with low per capita income.

The income measure if one examines carefully is infact heavily value loaded. Every type of product and service is assigned its own

particular weight. This weight is mainly determined by market forces, which reflect the country's distribution. The per capita income as a measure of development is defended on a number of basis. One defence of 'Income' is that it is an objective, value free indicator. It has also been agreed on behalf, of national income as a development indicator, that it could at least be quantified.

Physical Measure

(i) *Partial Indicators*: In some other investigations, difference n productivity, employment, industrialization mortality rate and protein consumption and so on are taken as index of development. However, they are only clues, and may well be misleading if used to compare nations of very different structure, genetic stock, dietary habits etc. Unemployment is a very difficult concept of define in a non industrial society. Volume of unemployed, underemployed, disguised employed, etc. is hard to measure. Differences is productivity or unemployment etc. when taken independently are at best partial indicators of development and do not fare any better than the per capita income measures.

(ii) *Composite measure of Development*: A meaningful study of differences in interregional or interregional development levels should take into consideration various physical variables which

have some bearing on the overall development. There are various other studies where in number of physical indicators are taken into consideration while measuring levels of development, e.g. the working group appointed by the planning commission under the chairmanship of Mr. B.D. Pande selected six broad criteria for identifying industrially backward areas.

Selected Indicators

Selection of indicators should be done very carefully and judiciously. In fact, selection of indicators is the most difficult job. In practice, one faces the major constraint of non-availability of reliable and desirable data for one's analysis purposes. Thus in a nutshell, the list of indicators selected for identifying backward region should be fairly comprehensive. Since development is essentially an organic process the level of development attained by various regions cannot be measured in terms of progress achieved in one or two sectors. Further, the indicators selected for preparing general index should be objective, reliable and measurable.

Indicators of Socio-Economic Development

1. Agricultural Sector

a) Irrigation extend (GIA/GSA) × 100

b) Irrigation intensity (GIA/NIA) × 100

c) Cropping intensity (GSA/NSA) × 100

d) Spread of H.Y.V. (HYV/NSA) × 100

e) Plant protection equipment per 100 hectares.

f) Electric pump sets, per 100 hectares

g) Animal drawn carts, per 100 hectares and per 100 cultivars.

2. Industrial sector: General and Small Scale

a) Number of Industrial units per 1000 population and per 100 sq/km.

b) Per cent of industrial workers to total population

c) Investment per worker per unit.

d) Electricity consumption, per worker per unit.

3. Educational Sector

a) Literates

(i) Percent of literates to total population

(ii) Percent male literates to male population

(iii) Per cent female literates to female population

(iv) Per cent urban literates to urban population

(v) Per cent rural literates to rural population

(b) Total students enrolled to respective age group

(i) PS and (ii) HPS

(ii) High School and Junior Colleges

(c) School Institution

(i) Per 100 sq. km/per cent of non-single teacher schools.

(d) Teachers

(i) Teacher per 10,000 population

(ii) Per cent of trained teachers

4. Transport Sector

(a) Surface of road length per 100 sq. km.

(b) Total road length per 100 sq. km.

(c) Per cent of villages having all weather roads

(d) Registered motor vehicle per 1000 sq. km/per lakh of population

5. Communication sector

(i) Number of posts and telegraph office per sq. km.

(ii) Telephones in use per sq. km 1000 population

(iii) Radio and television in use per sq. km.

6. Health sector

(i) Population served per hospital

(ii) Hospital and Dispensaries per 100 sq. km.

(iii) Population served per health unit.

(iv) Hospital beds per 10,000 population

7. Banking sector

(i) Population served per bank

(ii) Bank offices per sq. km

(iii) Total Deposit per capita

(iv) Total credit per capita

(v) Credit deposit ratio

8. Power sector

(i) Per cent of villages electrified

(ii) Number of pump sets energized

(iii) Per capita consumption of power

(iv) Power consumption of power

(v) Per capita domestic power consumption per sq. km

(vi) Domestic connections per 10,000 population and per sq. km.

(vii) Total number of connection per sq. km and per 10,000 population

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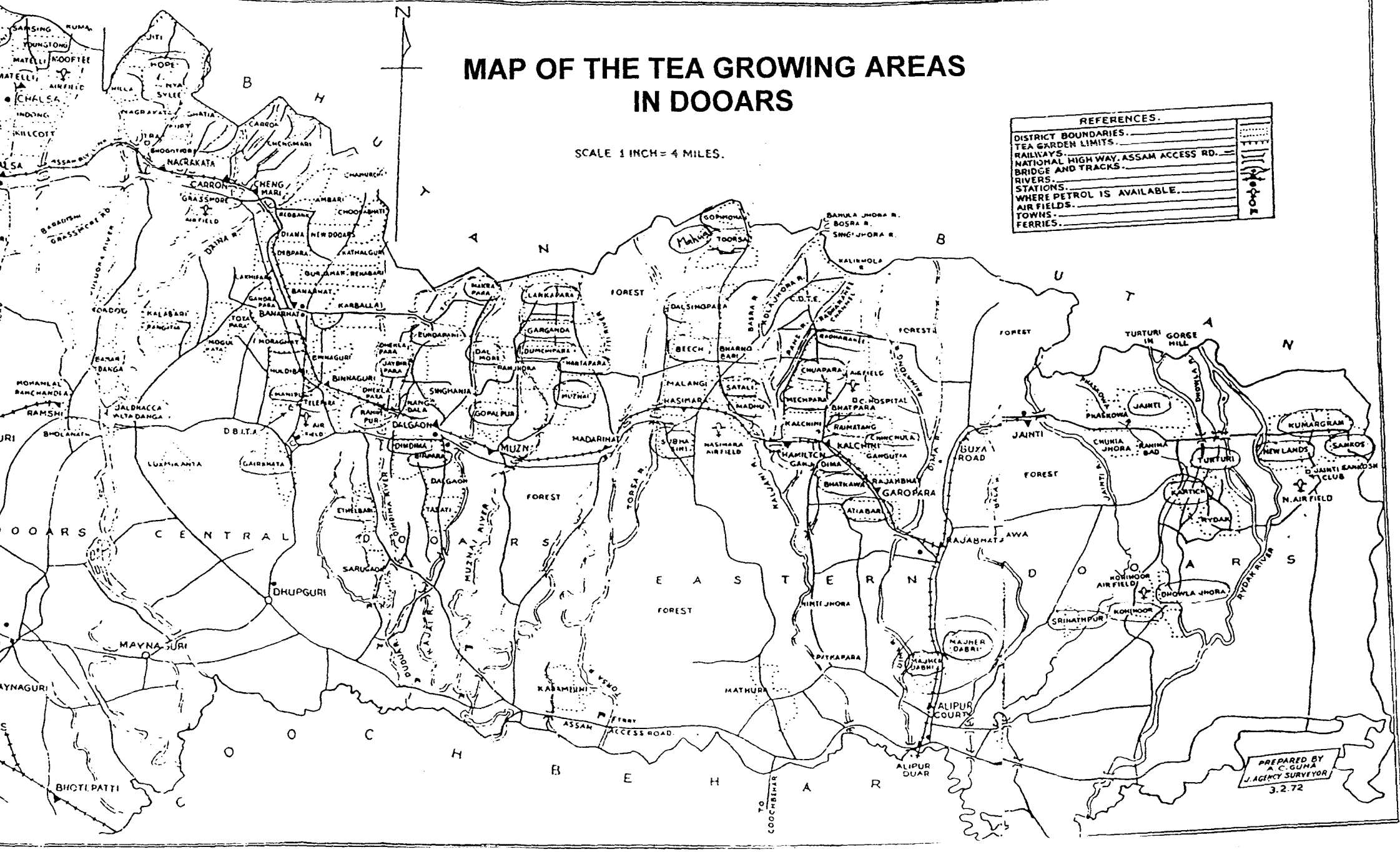
Chapter-IV

Tea Plantation in Dooars Region



Source: Techno-economic survey of Dooars Tea Industry, Tea Board of India, Kolkata, 2004

Fig. 2

CHAPTER-IV

TEA PLANTATION IN DOOARS REGION

Geographical and Environmental conditions play a major role in conditioning the livelihood and economy of the people in Dooars. The topography, climatic variations, soil condition have all influenced human occupance. Most of the people of the region are directly or indirectly related with tea gardening and agriculture.

Topography of this area and its environs is characterized by uneven conditions. Elevation of this region varies from 62 metre to 350 metre with the slope from North to South direction. Subsistence agriculture, livestock, forestry, plantations allied activities are the major activity of the rural folks.

Physiography in the area has made agricultural conditions extremely diverse. Agriculture is greatly impacted by altitude and slope aspect on account of cold no crops are grown above 500 feet above sea level. Such situation in Dooars has made cultivation extremely difficult and needs considerable input of human labour.

Dooars has cover 53% cultivable land in proportion to its total geographical area. Large section of people who are living in Alipurduar and Bhaktinagar areas are practicing traditional agriculture, more than 35% of land falling under such category. Bare rocky and steepness

restrict agriculture operations to a great extent. Broadly, agricultural crops can be grouped into two categories. Food crops and cash crops. Food crops include rice, maize, potato, wheat, barley etc. while the cash crops are tea, ginger etc. The methods of agriculture change with the crops fruits such as orange, papaya, peaches, guava, plumbs and even mangoes are grown in the valleys and in areas with low attitudes. Livestock and animal husbandry engages a considerable proportion of rural folks in the area.

The land use pattern has also been changing from natural land to man made structure. The total tea garden in the district about (20%), forest (30%), cultivated and non-cultivated land (35%) and the (15%).

Agriculture

Table 3.1 Classification of land utilization in the district of Jalpaiguri

(1000 hactares)

Year	Total area according to D.L.R.W.B	Forest according to state Forest Deptt.	Current fallow land	Other fallow land other than current fallow (%)	Net cropped area
1997-98	622.70	179.00 (28.74)	4.0 (0.61)	0.39 (0.06)	322.83 (51.84)
1998-99	622.70	179.00 (28.74)	3.2 (0.51)	0.39 (0.06)	322.93 (51.84)
1999-00	622.70	179.00 (28.74)	3.9 (0.62)	0.39 (0.06)	322.93 (51.84)
2000-01	622.70	179.00 (28.74)	3.2 (0.51)	0.25 (0.04)	336.51 (54.04)
2001-02	622.70	179.00 (28.74)	3.57 (0.57)	0.27 (0.04)	366.92 (58.92)

Source: Directorate of Agriculture, Govt. of W.B.
Note: Bracket shows the percentage

Table 3.1 shows that net cropped area cover more than half area (322.83) of the district. It has increased 51.84% to 58.92% during 1997-98 to 2001-02. Net cropped area followed by forest land which cover about (179000 hectares) which is about 28.74% which as neither decrease no declained since 1997-2002.Current fallow land (4000 hectare) covers very small area (0.64%). The table also indicate that the follow land is decreasing slightly over the period of 1997-2002 due to increase in technologies.

Table 3.2 Area under principal crops in the District of Jalpaiguri, 2002

(in 1000 hectares)

Crops	Area	Percent
Rice	256.1	57.86
Wheat	26.7	6.03
Maize	1.6	0.36
Other cereals	0.9	0.20
Pulses	3.8	0.85
Oil seeds	11.4	2.57
Jute	46.3	10.46
Mesta	0.4	0.09
Potato	14.3	3.23
Tobacco	0.6	0.13
Tea	74.0	16.71
Chillies	5.1	1.15
Ginger	1.4	0.31

Source: (i) District statistical Hand Book, Jalpaiguri, 2002.
(ii) Directorate of Agriculture, Govt. of West Bengal
(iii) Bureau of Applied Economics and Statistics, Govt. of West Bengal

Table 3.2 shows that rice is the dominant crop of the area which cover about 58% of the net cropped area. Tea is the second most important crop which cover about 17% net cropped area followed by jute cultivation.

Wheat also occupies a considerable cropped area which cover about 6 percent net cropped area. There are others crops which grown in the area occupy less than 1 per cent of the net cropped area which includes Maize, pulses, oil seeds, mesta, potato, chillies, ginger etc.

Condition of Growth

Tea an important of agriculture which has been spreading with time. Dooars has been producing finest quality tea in the world fetching the highest price starting on a commercial scale in 1856. The present area under tea gardens is 70200 producing 1363 million kgs of tea per year. Tea requires unique climatic conditions for its survival. Following agro-ecological conditions are essential for the growth of tea plants.

Table 3.3 Conditions of growth of Tea

Ecological conditions	Requirement
pH of soil	4.5 to 5.5
Ambient temperature	20-30° (max 35°C)
Leaf temperature	Min 21°C (max 39°C)
Soil temperature	Not less than 20°C for optimum 25°C
Day length	Not less than 11 hours 15 min.
Rainfall	1000-1400 mm of annual rainfall
Relative Humidity	80-90%, below 50% generally shoot growth is inhibited below 40% growth is adversely affected.

Rainfall is one of the most important factor determining yield. Tea is a rain fed crop. Distribution of rainfall is found to be more vital than the total rainfall for successful tea culture. Persistent rainless condition

causes drought and prolonged drought could be lethal. Air and soil temperature also play a vital role in crop growth and development. Temperature regulates almost all physiological processes by its influence on the activity of enzymes. Higher temperatures increase the transpiration rate and cause wilting of plants. During high temperature regime the enzymes are denatured. Extreme low temperature brings about injury due to chilling and freezing, mainly because of disruptive crystal formation. There is a very positive correlation between soil temperature and shoot growth. Light also affects the physiological activities like to photosynthesis, respiration, stomata functioning etc and indirectly affects the productivity of tea plant. Tea bushes are known to be benefited by high humidity low relative humidity adversely affects the physiological processes by influencing the cell sap concentration.

Tea can grow on various types of soil as detailed below:

Alluvial soil	:	North Eastern tea gardens
Sedminetary	:	Darjeeling Hills
Lotosols	:	South Indian Tea Plantations
Volcanic	:	Indonesia and Kenya
Dialuvial	:	Japan & Taiwan

Physical properties of soil should deep, porous and friable to a good depth of more than 3 feet. There should be no hard pan even in the sub soil. Soil should be light to medium textured i.e. it should contain at least 50% sand. Tea does not survive in water logged condition, although it requires sufficient moisture for its growth.

Tea Plantation

Table 3.4 Area under Tea cultivation in India 2002

[Figure in Hectares]

Districts/Status	2000		2001		2002	
	In figure	%	In figure	%	In figure	%
Darrang	41037	10.49	41233	10.46	41450	10.44
Goalpara	3460	0.88	3454	0.87	3454	0.87
Kamrup	3442	0.88	3436	0.86	3440	0.86
Lakhimpur	4815	1.23	4727	1.06	4800	1.20
Dibrugarh	93076	23.81	94080	2381	94500	23.81
Nowgong	7994	2.04	8001	2.02	8100	2.04
Sibsagar(a)	74807	19.13	75864	19.20	76.200	19.20
Cachar	32008	8.18	32272	8.16	32300	8.13
Karbi Anlog	1869	0.47	18.69	0.47	18.69	0.47
North Cacher	44004	11.02	44047	11.02	45050	11.35
Total Assam	**266512**	**68.17**	**268983**	**68.08**	**270163**	**68.07**
Darjeeling	17228	4.40	17318	4.38	17400	4.38
Terai(b)	20548	5.25	21467	4.43	21800	5.49
Dooars(c)	**69703**	**17.83**	**70017**	**17.72**	**70200**	**17.68**
Total W.B.	**107479**	**27.49**	**108802**	**27.53**	**109400**	**27.56**
Tripura	6623	1.69	6700	1.69	6700	1.68
Bihar	1350	0.34	1445	0.36	1450	0.36
Uttar Pradesh	1068	0.27	1068	0.27	1068	0.26
Himachal Pradesh	2325	0.59	2325	0.58	2325	0.58
Manipur	907	0.23	950	0.24	950	0.23
Sikkim	296	0.07	300	0.007	300	0.07
Arunachal Pradesh	2176	0.55	2250	0.56	2250	0.56
Nagaland	1214	0.31	1270	0.32	1270	0.32
Meghallay	351	0.08	370	0.09	370	0.09
Mizoram	391	0.10	400	0.10	400	0.10
Orissa	214	0.05	214	0.05	214	0.05
Total North India	**390906**		**395077**		**396860**	

Source: Tea Board of India, Tea Digest 2002

Dooars region covers 17.68 per cent area of the total area under tea cultivation in North India Dooars occupies third place in terms of area after Dibrugarh 23.81 percent and Sibsargar 19.20 per cent districts of Assam.

Moreover the region occupy major proportion of tea area of West Bengal. It occupy more than 64% of area under tea cultivation of West Bengal Followed by Terai region and Darjeeling.

The new area of tea production in North India are Tripura, Meghalaya, Mizoram, Arunachal Pradesh, Himachal Pradesh, Sikim, Mainpur, Bihar, Uttar Pradesh and Orissa. All these states occupy less than 1 per cent area under tea production of North India each.

The position of the Dooars region in terms of area in the country as a whole is more or less same as that of North India as the table 3.4 shows that no districts of South India has more area under tea cultivation than the Dooars region.

Table 3.5 District wise Production of Tea in North India

Districts/States	2000	2001	2002
Darrang	77030	78224	73950
Goalpara	6297	6223	6100
Kamrup	4302	4585	4300
Lakhimpur	9068	9113	8950
Dibrugarh	163426	166504	154550
Nowgong	11788	11793	11100
Sibsagar(a)	119978	119626	113950
Cachar	49206	50296	51965
Karbi Anlog	1945	1929	1846
North Cacher	6179	5643	5800
Total Assam	449219	453936	432511
Darjeeling	9281	9742	10727
Terai(b)	43291	46395	36491
Dooars(c)	**128964**	**130739**	**142623**
Total W.B.	**181536**	**186876**	**189841**
Tripura	6431	6506	6430
Bihar	538	543	520
Uttar Pradesh	264	327	272
Himachal Pradesh	1247	1022	718
Manipur	96	101	98
Sikkim	105	110	100
Arunachal Pradesh	993	1047	950
Nagaland	43	45	40
Meghallay	140	148	135
Mizoram	39	41	40
Orissa	105	105	100
Total North India	**640756**	**650807**	**631755**

Source: Tea Board of India, Tea Digest 2002

Table 3.5 shows that in North India, largest production of tea covered by Dibrugarh District (154550 thousand kgs) of Assam followed by Dooars region (142623 thousand Kgs), Sibsagar (113950 thousand kgs) and Goalpara (73950 thousand kgs) district of Assam.

Moreover the region produces major proportion of tea production of West Bengal. It produces about 142623 thousand kgs. Out of 189841 thousand kgs in 2002. It means 75% of total tea production of West Bengal followed by Terai a region and Darjeeling district.

The little production of tea states in North India are, Tripura, Bihar, Uttar Pradesh, Himachal Pradesh, Manipur, Sikkim Arunachal Pradesh, Nagaland, Meghalaya, Mizoram, Orissa. All these states produces below (thousands) Kgs except Fripura.

The position of Dooars region in terms of tea production in the country as a whole is 17.26% of total production. South India has more area under tea cultivation them the Dooars region but the tea productive of Dooars is move than South India.

Table 3.6 Average Yield Rate of Tea in North India

[Figure thousand Kg]

Districts/States	2000	2001	2002
Darrang	1877	1897	1784
Goalpara	1820	1802	1766
Kamrup	1250	1334	1250
Lakhimpur	1883	1928	1864
Dibrugarh	1756	1770	1935
Nowgong	1475	1474	1370
Sibsagar(a)	1604	1577	1495
Cachar	1537	1559	1609
Karbi Anlog	1041	1032	988
North Cacher	1543	1394	1432
Total Assam	1686	1688	1601
Darjeeling	539	563	616
Terai(b)	2107	2161	1674
Dooars(c)	**1850**	**1867**	**2032**
Total W.B.	**1689**	**1718**	**1735**
Tripura	971	971	960
Bihar	399	376	359
Uttar Pradesh	247	306	255
Himachal Pradesh	536	440	309
Manipur	106	106	103
Sikkim	355	367	333
Arunachal Pradesh	456	465	422
Nagaland	35	35	31
Meghallay	399	400	365
Mizoram	100	103	100
Orissa	491	491	467
Total North India	**1639**	**1647**	**1592**

Source: Tea Board of India, Tea Digest 2002

Table 3.6 depicts the average yield rate of tea in North India which shows that Dooar has the highest average yield rate of tea in North India which has figure of 2032 kg/h. Followed by Lakhimpur 1865 kg/h, Darrang 1784 kg/h., Goalpara 1766 kg /h district of Assam.

Dooars region has no position in terms of average yield rate of tea in all India basis. Highest average yielded rate of tea is recorded in Dooars. However the table reveals that there is no major gap in the average yield rate of tea between North & South India. It is 1592 Kg/h for North India and 1614 Kg/h South India. A gap of 22 kg/h.

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Chapter-V

Socio-Economic Life in Dooars Region

CHAPTER-V

SOCIO-ECONOMIC LIFE IN DOOARS REGION

Socioeconomics is the study of the social and economic impacts of any product or service offering, market intervention or other activity on an economy as a whole and on the companies, organization and individuals who are its main economic actors. These effects can usually be measured in economic and statistical terms, such as growth in the size of the economy, the number of jobs created (or destroyed), or levels of home ownership or Internet penetration; and in measurable social terms such as life expectancy or levels of education. The combination of economic and social factors that influence how an intervention is likely to change a society will be unique to each hesitation, but generally may include, for example:

- Prevailing economic conditions
- The level of economic development and the extent of disparities within a society
- Political stability and the relationship between government and judiciary
- Levels of education, literacy and familiarity with technology
- Maturity and openness of markets

- Propensity for entrepreneurial activity
- Strength of tradition in terms of beliefs and behaviours

Examples of causes of socio-economic impact is include new technologies (such as cars or mobile phones changes in laws (such as the legal right to abortion changes in the physical environment (such as increasing crowding within cities), and ecological changes (such as prolonged drought or declining fish stocks). These may affect patterns of consumption, the distribution of incomes and wealth, the way in which people behave (both in terms of purchase decisions and the way in which they choose to spend their time), and the overall quality of life. These can further have indirect effects on social attitudes and norms.

In specific cases, socio-economics studies will necessitate identifying the specific relevant factors, and understanding their status before and then as a consequence of the intervention.

The goal of socio-economic study is generally to bring about socio-economic development, usually in terms of improvements in metrics such as GDP, life expectancy, literacy, levels of employment, etc.

Although harder to measure, changes in less tangible soft factors should also be considered. Thee include issues such as personal dignity, freedom of association, personal safety and freedom from fear of physical harm, and the extent of participation in civil society.

Socio-economics is itself not an economic theory (though it may use economic theories to understand impacts); neither should it be confused with socialist economics.

The Socio-economic Class

A social class is, at its most basic, a group of people that have similar social status.

The relative importance and definition of membership in a particular class differs greatly over time and between societies, particularly in societies having a legal differentiation of groups of people by birth or occupation.

In the well-known example of socio-economic class, many scholars view societies as stratifying into a hierarchical system based on economic status, wealth, or income.

Using wealth as a dimension, many have used a bi-partite model to view societies, from ancient history to the present day:

- an upper class of the immensely wealthy and/or powerful
- a lower class of the poor and/or weak

With the social changes of the 20th century a gradually developing urban middle class appeared in most Western countries, three strata:

- an upper class of immensely wealth and/or powerful

- a middle class of managers and highly paid professionals
- a lower class of people paid average or low wages or receiving "welfare". Some are homeless.

Karl Marx famously claimed that the primary social division was between a 'ruling class' and a labouring class. Under slavery this division corresponds to that between the slave-owners and the slaves, while under feudalism it corresponds to that between lords and serfs under capitalism, the capitalists (the bourgeoisie exploit the working class (the proletariat or in other words the wage-earners).

Note that the Marxist definition of social class is based on how money is earned, not how much money is earned. The bourgeois are those who own the means of production (i.e. business owners) and hire other people to work for the bourgeois and receiving wages. Therefore, there is no "middle class" per se –only poorer-than-average bourgeois and richer-than-average proletarians.

Table 4.1 Area, population and density of population in the district of Jalpaiguri, 2001(P)

Sub-division C.D. Block/M	Area in Sq. K.M.	Population (Number)	Density per Sq. K.M.	% age of population to district population
Sadar Sub Division	2293.41	1367346	596	40.18
Rajganj	613.96	287615	468	8.45
Jalpaiguri	494.56	280446	567	8.24
Jalpaiguri (M)	18.58	100212	5394	2.95
Maynaguri	631.04	281554	2188	8.27
Mal Sub Division	1000.43	513340	513	15.08
Mal	545.99	264711	485	7.78
Mal (M)	2.56	23212	9067	0.68
Metiali	54.88	105861	1929	3.11
Nagrakata	397.00	119556	301	3.51
Alipurduar Sub Division	2542.13	1336858	526	39.28
Kumargram	501.12	177894	355	5.23
Falakata	3312.58	254027	813	7.46
Madarihat & Birpara	380.96	185499	487	5.45
Kalchini	820.63	252322	307	7.41
Alipurduar-I	196.22	197160	1005	5.79
Alipurduar-II	321.26	196909	613	5.79
Alipurduar (M)	9.36	73047	7804	2.15
District: 1991	6227.00	2800543	450	100.00
2001	6227.00	3403204	547	100.00

N.B. – As per census report 2001 excluding Siliguri (M.C.)
MC = Municipal Corporation
M = Municipality
Source: Census of India, 1991 and 2001

Table 4.1 shows that an area of 6227 sq. km Jalpaiguri district has 3217544 population according to 2001.

There are three sub-division Sadar subdivision has largest number of population while Alipurduar subdivision covers largest area. Dhupguri Block of Sadar subdivision has highest percentage of population which accounts about 12.27 per cent of the total district population while Kalchini block Alipurduar subdivision has largest area among of blocks. It is point to note that all the Municipality area (Japaiguri, Mal, Alipurduar) of the district has low concentration of population and cover smaller area but have high density of population.

Sub-divided Bar Chart showing the distribution of population according to different categories of workers & non-workers by rural and urban sectors in Jalpaiguri District as per Census of India, 2001

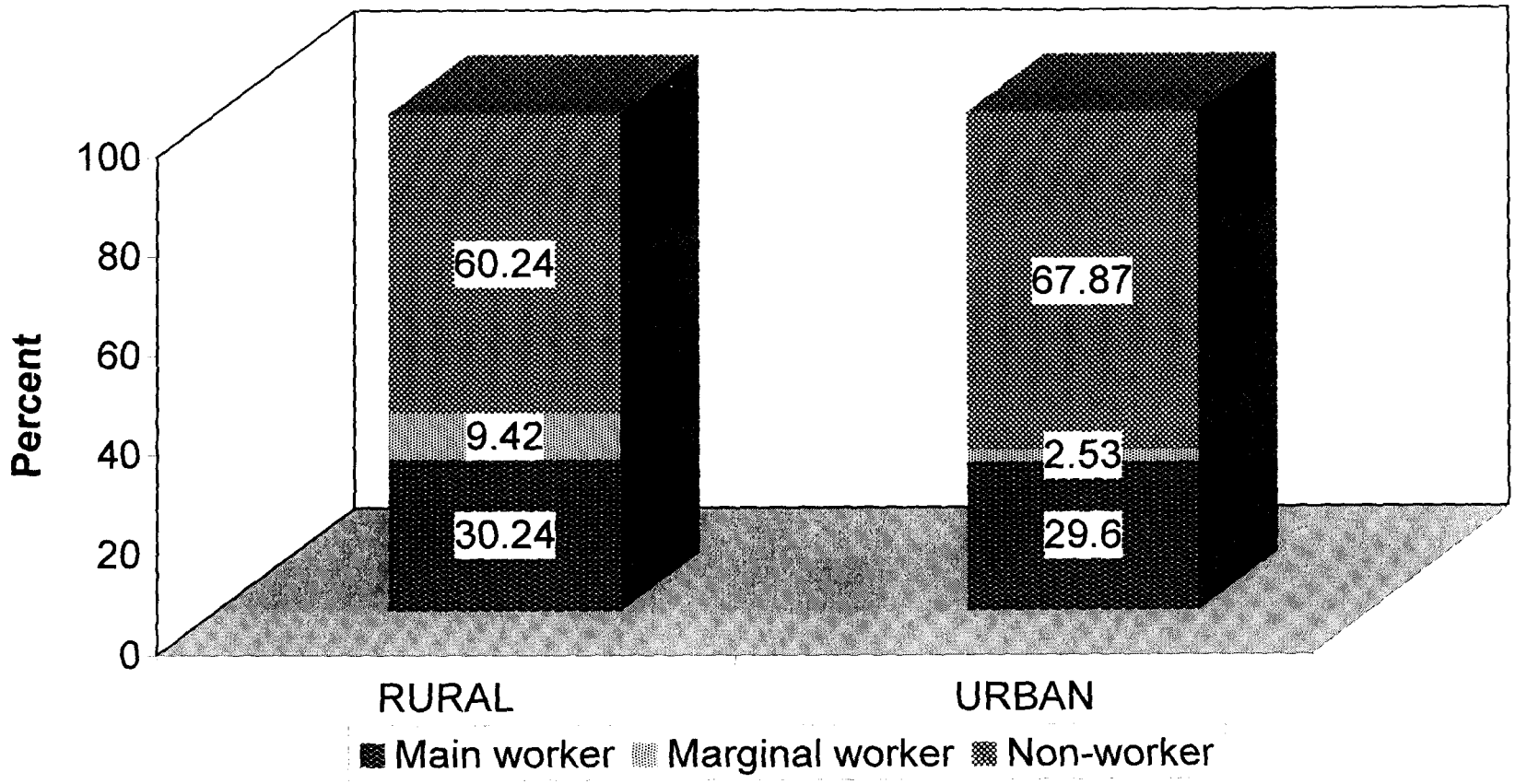

Fig.3

Table 4.2 Percentage distribution of population according to different categories of workers and non-workers in the district of Jalpaiguri, 2001(P)

Sub-Division/ C.D. Block/M	Total workers		Class of Total Workers			
	Population	Percentage	Cultivaors		Agricultural laboures	
			Population	Percentage	Population	Percentage
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sadar Sub-Division	530491	38.80	127902	9.35	109525	8.01
Rajganj	109004	37.90	20022	6.96	16075	5.59
Jalpaiguri	119835	42.73	33378	11.90	33197	11.83
Jalpairguri (M)	31619	31.55	84	0.08	46	0.05
Maynaguri	110871	39.38	41517	14.75	28863	10.25
Dhupguri	159162	38.12	32901	7.88	31344	7.51
Mal Sub-Division	204800	39.90	26436	5.15	26382	5.14
Mal	106471	40.22	18480	6.98	1785	6.72
Mal (M)	7249	31.23	4	0.01	12	0.05
Metiali	43287	40.89	3262	3.08	2710	2.56
Nagrakata	47793	39.98	4690	3.92	5875	4.91
Alipurduar Sub-Division	509231	38.09	110730	8.28	94334	7.06
Kumargram	75598	42.50	21509	12.09	15317	8.61
Falakata	95642	37.65	28302	11.14	25138	9.90
Madarihat & Birpara	70784	38.16	8475	4.57	5966	3.22
Kalchini	89589	35.51	7261	2.88	6490	2.57
Alipurduar-I	78727	39.93	22869	11.60	18667	9.47
Alipurduar-II	74864	38.02	22270	11.31	22659	11.51
Alipurduar (M)	24027	32.89	44	0.06	97	0.13
District 1991	946332	33.79	277052	9.89	165995	5.93
2001	1244522	38.68	265068	8.24	230241	7.16

N.B. – As per census report 2001 excluding Siliguri (M.C.) ; MC = Municipal Corporation; M = Municipality; Source: Census of India, 1991 and 2001

Table 4.2 shows that percentage of total worker in all the three subdivision is almost same which is near about 38 percent. Highest number of worker were found in Jalpaiguri (42.73%) and Kumargram block (42.50%) while the lowest percent of workers found in all the municipality area of the district which is near about 30 per cent of the total population of municipality areas.

According to class of total workers in Sadar subdivision cultivators accounts for 9.35 per cent while 9.01 per cent are agriculture labour. In Mal subdivision only 5.15 per cent are cultivators and 5.14 per cent are agriculture labourers while in Alipurduar subdivision 8.28 per cent are cultivators and 7.06 per cent are agriculture labour. In all the sixteen blocks highest percent of cultivators were recorded in Maynaguri (14.75%) and Kumargram (12.09%) blocks while the lowest percentage of cultivators recorded in all the municipality areas of the district.

Highest percent of labourer were found in Alipurduar-II (11.51%) and Jalpaiguri (11.83%) and block while lowest percent of agriculture labourer were found in all the municipality areas. Percentage of house hold industry workers are below 1 per cent in all the blocks of the district however it is more than 1 per cent in some of the municipality areas.

Table 4.3a: Public Health

Medical facilities available in the district of Jalpaiguri

Year/Sub-Division C.D. Block/M	Medical Institutions					Total beds	Doctors
	Hospitals	Health Centres	Clinics	Dispensaries	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1997	9	53	53	60	175	1404	181
1998	10	46	56	56	168	1325	162
1999	10	46	56	56	168	1335	164
2000	10	46	56	56	168	1335	162
2001	112	46	56	56	270	4189	314
Year: 2001							
Sadar Sub-division	25	19	24	24	92	1340	136
Rajganj	2	3	4	4	13	125	21
Jalpaiguri	3	6	7	7	23	115	11
Jalpaiguri (M)	1	-	1	1	3	610	54
Maynaguri	1	6	7	7	21	60	15
Dhupguri	18	4	5	5	32	430	35
Mal Sub-Division	36	10	11	11	68	988	60
Mal	11	4	4	4	23	276	12
Mal (M)	1	-	1	1	3	100	18
Metiali	12	3	3	3	21	300	15
Nagrakata	12	3	3	3	21	302	15
Alipurduar Sub-division	51	17	21	21	110	1871	118
Kumargram	7	3	3	3	16	215	9
Falakata	6	2	3	3	14	130	13
Madarihat & Birpara	15	4	5	5	29	415	29
Kalchini	15	2	2	2	21	571	17
Alipurduar-I	5	3	3	3	14	190	16
Alipurduar-II	2	3	4	4	13	125	9
Alipurduar (M)	1	-	1	1	3	225	25

Source: Chief Medical Officer of Health, Jalpaiguri 2002.

Table 4.3 shows that according to 2001 census highest number of medical institution which includes hospitals, health center, clinics and dispensaries found in Alipurduar subdivision of 270 medical institution 110 found in Alipurduar, 92 in Sadar subdivision and 68 in Mal subdivision.

Block-wise distribution of medical institution shows an uneven distribution Dhupguri 32 has highest number of medical institution while lowest number of medical institutions found in municipality area because it has lower population as well as cover in least area of the district.

Table 4.3b: Family welfare

Number of family welfare centers in the district of Jalpaiguri

Year/Sub-division/C.D. Block/M	Family welfare centers		
	Public	Private	Total
(1)	(2)	(3)	(4)
1997-98	527	-	527
1998-99	527	-	527
1999-00	527	-	527
2000-01	527	-	527
2001-02	527	-	527
Year 2001-02			
Sadar Sub-division	221	-	221
Rajganj	49	-	49
Jalpaiguri	59	-	59

Jalpairguri (M)	1	-	1
Maynaguri	53	-	53
Dhupguri	59	-	59
Mal Sub-Division	92	-	92
Mal	55	-	55
Mal (M)	1	-	1
Metiali	11	-	11
Nagrakata	25	-	25
Alipurduar Sub-division	214	-	214
Kumargram	32	-	32
Falakata	40	-	40
Madarihat & Birpara	31	-	31
Kalchini	36	-	36
Alipurduar-I	37	-	37
Alipurduar-II	1	-	1
Alipurduar (M)	37	-	37

Source: Census of India, 1991 and 2001

Table 4.3b shows all the family welfare centers are under public sector, which is stagnant since 1997 as the number of family welfare centers was 557 in 1997 and it is same in 2001-02. Highest number of family welfare centers found in Jalpaiguri block (59). In Mal block (55), Dhupguri (59), Maynaguri (53). Lowest number of welfare centers found in all municipality areas. Highest number of medical institution, run by private institution.

Table 4.3c: Public Health

Veterinary Hospitals, veterinary personnel and cases treated in the district of Jalpaiguri

Year/Sub-Division C.D. Block/M						A.I. Centre	Veterinary personnel	Cases treated
	SAHC	BAHC	ABAHC	ADAC	MAHC			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year 2001-02	6	13	13	123	-	207	222	448869
Sadar Sub-division	2	4	4	53	-	75	84	214995
Rajganj	-	1	1	10	-	12	16	29289
Jalpaiguri	-	1	1	13	-	16	16	54834
Jalpaiguri (M)	1	-	-	-	-	1	19	17238
Maynaguri	-	1	1	14	-	27	20	42866
Dhupguri	1	1	1	16	-	19	23	70768
Mal Sub-Division	1	3	3	16	-	23	31	71323
Mal	-	1	1	10	-	12	10	29077
Mal (M)	1	-	-	-	-	1	4	12142
Metiali	-	1	1	3	-	5	8	19457
Nagrakata	-	1	1	3	-	5	9	10647
Alipurduar Sub-division	3	6	6	54	-	109	97	162551

Kumargram	-	1	1	9	-	14	15	23746
Falakata	1	1	1	10	-	34	20	34994
Madarihat & Birpara	1	1	1	8	-	9	17	35511
Kalchini	-	1	1	9	-	15	13	18571
Alipurduar-I	-	1	1	9	-	17	13	18315
Alipurduar-II	-	1	1	9	-	19	12	18984
Alipurduar (M)	1	-	-	-		1	7	12430

Note: S.A.H.C. – State Animal Health Centre
B.A.H.C. – Block Animal Health Centre
A.B.A.H.C. - Additional Block Animal Health Centre
A.D.A.C. – Animal Development Aid Centre
M.A.H.C. - Mobile Animal Health Centre
A.I.C. – Artificial Insemination Centre
M – Municipality
Source: Deputy Director, Jalpaiguri Animal Resource & Development Parishad Office 2002.

Table 4.3c shows that the veterinary hospitals and personnel are generally lacking in the district and unevenly distributed. There were few states animal health center which were mainly concentrated in municipality areas while lacking in rural areas. Animal development Aid Centres is meant to supplement that state Animal Health Centre and Block Animal Health Centre is in level areas is in considerable numbers.

Table 4.4 Percentage of literacy by sex in rural and urban areas in the district of Jalpaiguri, 2001(P)

Sub-division C.D. Block/Municipality	Total		
	Male	Female	Total
(1)	(2)	(3)	(4)
Sadar Sub-division	76.36	54.38	65.80
Rajganj	71.95	47.26	60.26
Jalpaiguri	77.16	54.59	66.23
Jalpaiguri (M)	91.33	82.57	86.99
Maynaguri	77.49	55.81	67.07
Dhupguri	74.27	50.40	62.85
Mal Sub-Division	66.01	42.56	54.50
Mal	65.42	42.16	54.03
Mal (M)	88.56	77.09	83.10
Metiali	67.53	42.37	55.07
Nagrakata	61.24	36.85	49.24
Alipurduar Sub-division	72.32	52.98	62.93
Kumargram	70.29	50.21	60.55
Falakata	73.57	54.18	64.22
Madarihat & Birpara	65.15	44.01	54.81
Kalchini	66.04	44.24	55.39
Alipurduar-I	77.55	58.46	68.32
Alipurduar-II	74.71	56.76	66.03
Alipurduar (M)	90.67	81.93	86.40
District 1991	56.00	32.20	45.10
2001	73.04	51.88	62.80

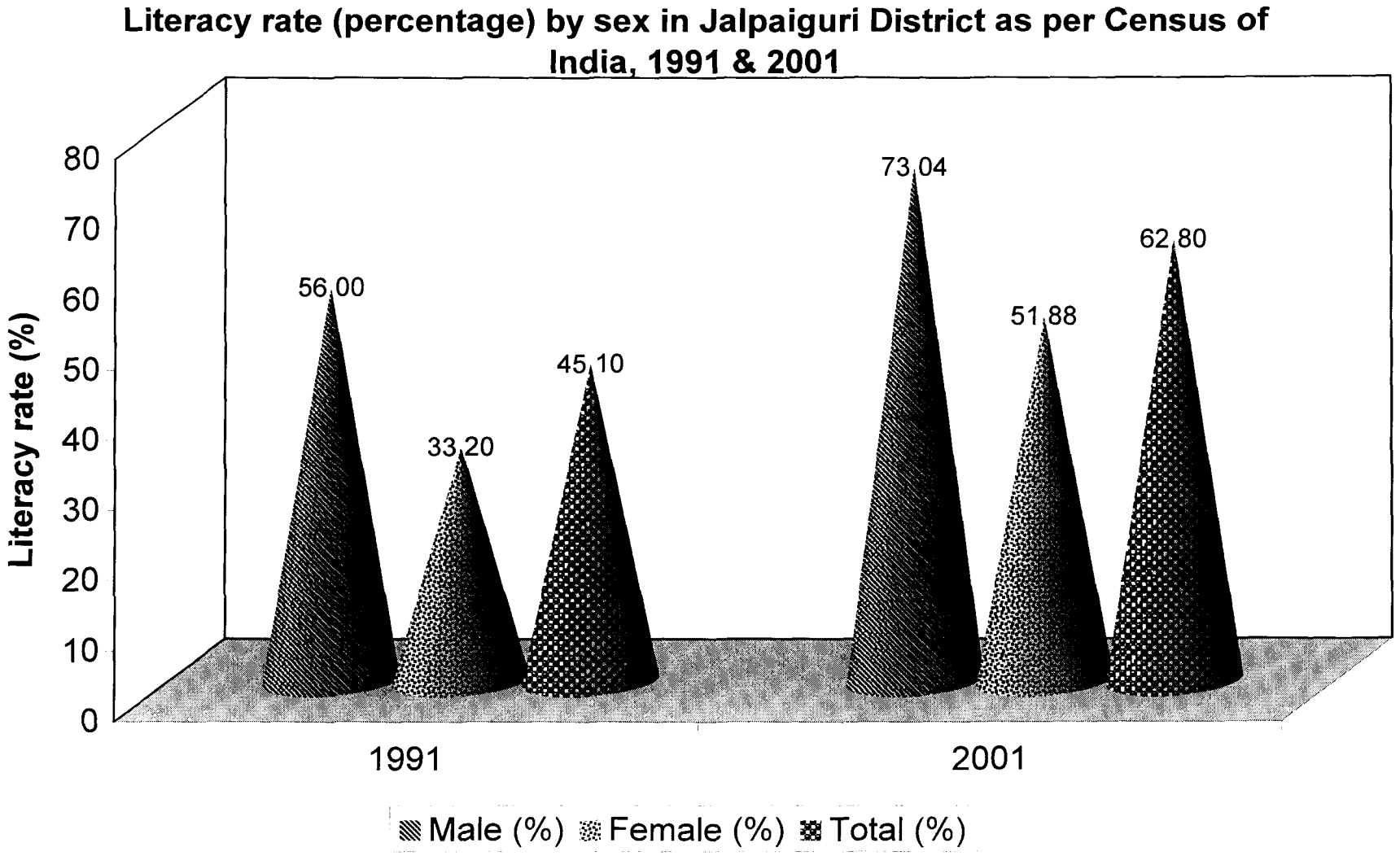
Literacy rate (percentage) by sex in Jalpaiguri District as per Census of India, 1991 & 2001
Literacy rate (%)
80
70
60
50
40
30
20
10
0
56.00
33.20
45.10
73.04
51.88
62.80
1991
2001
Male (%)
Female (%)
Total (%)

Fig.4

Table 4.5 Percentage of literacy by sex in rural and urban areas in the district of Jalpaiguri, 2001

Sub-division C.D. Block/Municipality	Urban			Rural		
	Male	Female	Total	Male	Female	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sadar Sub-division	88.70	78.23	83.59	74.27	50.20	62.74
Rajganj	-	-	-	71.95	47.26	60.26
Jalpaiguri	-	-	-	77.16	54.59	66.23
Jalpaiguri (M)	91.33	82.57	86.99	-	-	-
Maynaguri	90.18	78.82	84.64	76.09	53.19	65.10
Dhupguri	83.71	70.26	77.30	72.58	46.87	60.28
Mal Sub-Division	88.56	77.09	83.10	64.85	40.90	53.08
Mal	-	-	-	65.42	42.16	54.03
Mal (M)	88.56	77.09	83.10	-	-	-
Metiali	-	-	-	67.53	42.37	55.07
Nagrakata	-	-	-	61.24	36.85	49.24
Alipurduar Sub-division	86.39	74.96	80.86	69.61	48.79	59.50
Kumargram	91.95	81.59	86.92	68.86	48.12	58.80
Falakata	91.25	80.56	86.03	72.11	51.94	62.39
Madarihat & Birpara	-	-	-	65.15	44.01	54.81
Kalchini	73.92	57.56	66.13	63.89	40.82	52.54
Alipurduar-I	90.67	79.19	85.13	73.22	51.65	62.78
Alipurduar-II	82.06	69.67	76.11	74.52	56.42	65.77
Alipurduar (M)	90.67	81.93	86.40	-	-	-
District 1991	78.14	63.29	71.07	51.37	26.99	39.70
2001	87.55	76.57	82.22	70.75	47.97	59.73

Source: Census of India, 1991 & 2001

Note: Literate population excludes children of age group 0-6 years.

Table 4.5 shows that according to 1991 census the literacy rate work 45.10% which has increased to 62.8% in 2001. The male literacy rate (73) is higher than female (51.88%). The gap between male and female literacy rate has reduced during 1991-2001. The gap was more than 23 per cent in 1991 but it was only 21 per cent in 2001.

Highest literacy among male and female were found in municipality areas of the district. Highest rural literacy were found in Jalpaiguri, Alipurduar-II, Falakata, Maynaguri. Comparatively female literacy rate is lower than the Male literacy in all the blocks but it is lowest in Mal subdivision.

Overall literacy situation in the district has comparatively improve over the last decades but it is still lower than the national average but higher than the state average (57%).

Table 4.6 Number of Institutions (per ten thousand of population) in the District of Jalpaiguri 2001

Subdivision	Population	Primary	Junior	Secondary	Higher secondary	College	Professional & Tech. School & Colleges
Sadar Sub-division	1367346	885 (6.47)	32 (0.23)	88 (0.64)	39 (0.28)	0.03	0.07
Rajganj	287615	171 (5.95)	6 (0.20)	29 (1.00)	6 (0.20)	-	0.07
Jalpaiguri	280446	233 (8.30)	12 (0.42)	19 (0.67)	7 (0.24)	-	0.07
Jalpaiguri (M)	100212	73 (7.28)	2 (0.19)	6 (0.59)	10 (0.99)	0.30	0.57
Maynaguri	281554	205 (7.28)	7 (0.24)	17 (0.60)	5 (0.17)	0.03	-
Dhupguri	417519	203 (4.86)	5 (0.11)	17 (0.40)	11 (0.26)	0.02	-
Mal Sub-Division	513340	280 (3.01)	10 (0.19)	22 (0.42)	6 (0.11)	0.02	-
Mal	264711	155 (5.85)	5 (0.18)	9 (0.33)	2 (0.07)	0.03	-
Mal (M)	23212	10 (4.300	2 (0.86)	2 (0.86)	2 (0.86)	-	-
Metiali	105861	62 (5.85)	2 (0.18)	4 (0.37)	1 (0.09)	-	-
Nagrakata	119556	53 (4.43)	1 (0.08)	7 (0.58)	33 (0.24)	-	0.007
Alipurduar Sub-division	1336858	803 (6.00)	24 (0.17)	77 (0.57)	4 (0.22)	0.04	-
Kumargram	177894	119 (6.68)	2 (0.11)	8 (0.44)	5 (0.19)	0.05	-
Falakata	254027	154 (6.06)	4 (0.15)	13 (0.51)	4 (0.21)	0.03	-
Madarihat & Birpara	185499	90 (4.85)	6 (032)	9 (0.48)	3 (0.11)	0.04	-
Kalchini	252322	106 (4.20)	3 (0.11)	13 (0.51)	5 (0.25)	0.03	-
Alipurduar-I	197160	134 (6.76)	3 (0.15)	19 (0.96)	4 (0.20)	-	0.05
Alipurduar-II	196909	160 (8.12)	3 (0.15)	14 (0.71)	8 (1.09)	-	-
Alipurduar (M)	73047	40 (5.47)	3 (0.41)	1 (0.13)		0.14	-

Source: Census of India, 2001, Jalpaiguri
Note: The figure in bracket in per ten thousand of population.

Table 4.6 shows that the educational institutions in the district of Jalpaiguri which includes primary, junior, secondary, higher secondary, colleges/university and professional & technical school & colleges.

Higher no. of primary schools were observed in Sadar subdivision (885) followed by Alipurduair subdivision (803) and Mal subdivision (230) Block wise distribution shows that Jalpaiguri Sadar, Maynaguri, Dhupguri and Alipurduar- II has larger concentration of primary schools while all the municipality area have lower concentration of primary school.

The table also review that the figure for the junior school per ten thousand of population for all the blocks and municipality areas is lower than 1 school per ten thousand of population. Primary school per ten thousand of population which in bracket in the table review that in all the blocks less than 10 schools available for per ten thousand of population. It is lesser than 4 school per ten thousand of population in many of the blocks.

Secondary and higher secondary schools are fewer in number . It is 127 in Sadar subdivision, only 28 in Mal subdivision and 110 in Alipurduar subdivision. Secondary and higher secondary school per ten thousand is also less then 1 school per ten thousand of population. However municipalities area have high figure in comparison to community development block areas.

There were only 12 colleges in the district which are mainly concentrated in municipality areas and larger C.D. blocks. Professional school and technical colleges are mainly concentration in Sadar subdivision in Jalpaiguri municipality areas.

Table 4.7: News papers and Periodicals Published in the district of Jalpaiguri

Year as on 31st March	Daily	Weekly	Fort-nightly	Monthly	Others	Total
1998	-	6	2	2	1	11
1999	-	6	2	2	1	11
2000	-	6	2	2	1	11
2001	-	4	6	3	1	14
2002	-	4	6	1	3	14
LANGUAGE						
Bengali	-	4	6	1	3	14
English	-	-	-	-	-	-
Hindi	-	-	-	-	-	-
Urdu	-	-	-	-	-	-
Others	-	-	-	-	-	-
Total	**-**	**4**	**6**	**1**	**3**	**14**

Source: Dist. information & cultural Officer, Jalpaiguri 2002.

Table 4.7 shows that the total list newspaper 14 published according to District Statistical Hand Book 2002 (Jalpaiguri) most of them are Bengali Newspapers.

Table 4.8a: Transport and Communication

Roads maintained by P.W.D., Zilla Parishad and Panchayat in the district of Jalpaiguri for the year, 2001-2002

(In kilometer)

Roads	Surfaced	Un-surfaced	Total
P.W.D.	1295.93	-	1295.93
Zilla Parishad	508.67	209.53	718.20
Gram Panchayat & Panchayat Samiti	743.57	3556.50	4300.01
Municipality	261.20	68.80	330.00

Source: PWD (Roads); Zilla Parishad; Panchayat Samities; Gram Panchayat Jalpaiguri District statistical handbook 2002

Table 4.8a shows that maximum surfaced roads are constructed by PWD (1295.93 km) and minimum road are constructed by municipality.

Table 4.8b: Length of different classes of roads maintained by P.W.D. in the district of Jalpaiguri

(In Kilometer)

Year	National High Ways	State High ways	District roads	Village roads	Total
2001-02	330.93	222.00	490.00	253.00	1295.93

Table 4.8b shows that the total length of different classes of roads maintained by PWED the district of Jalpaiguri is 1295.93 km. Maximum road ways occupied by district roads (490) and minimum occupied by village roads (253).

Table 4.8c: Post & Telegraph office in the district of Jalpaiguri

(Number)

Year as on 31st March	Post Office	Telegraph office	Combined office
1998	290	1	32
1999	295	1	23
2000	297	1	24
2001	297	1	24
2002	300	1	30

Source: District Statistical Handbook Jalpaiguri 2002.

Table 4.8c shows that the total number of post office in the district is 300 according to District Statistical Handbook 2002, telegraph office is 1 and combined office 30.

CONCLUSION

The socio-economic environment of local agriculture is completely different from that of plantation agriculture. The Dooars agriculture was in the process of transition from natural economy to the exchange economy. The economic attitude of the local cultivators was that of a tribal society where savings and productivity were secondary to their traditional philosophy of life. The climatic condition, nature of cultivation, social way of life and economic objective – all provided a completely different level of living and rationality for the local cultivators compared to that prevailing in plantation economy. Added to his is the inferiority complex of the illiterate cultivators class. Hence there is hardly any chance of permeation of the plantation enterprise and technology in the local agriculture. The plantation economy remained an island enclaved by the traditional cultivation.

Employment was given at the lowest stage of production – cultivation. Work was described as unskilled work and division of work was done on the basis of manual labour. Light works such as plucking was given to the women workers whereas heavy work of cultivation and maintenance was marked for male workers. Field work was the major part of the production activity at primary state. Secondary stage was the processing in the factory.

The importance of the plantation sector in the national economy has given a new orientation to its future. The plantation sector is the

export sector of the country, and its significance lies in its capacity to earn foreign exchanges. Declining viability of this sector would develop balance of payment difficulty for the country. The employment ratio in the plantation economy is very high. Because of liberal policy the national government has political commitment to the labourers in general. The dominant economic group in the colonial society was the merchant group. This group was the largest owner of plantation assets. In post-independence period, the group period, this group created a plantation lobby equally powerfully as the imperial plantation lobby. They have successfully transferred some of their private financial burdens to the shoulder of national government. All these factors make the plantation sector a national burden in those countries resulting into either nationalization of the sector or increasing subvention by the government.

PROPOSED PLAN FOR Ph.D. WORK

The proposed plan for doctoral research on "Impact of Tea Plantation on the Socio-Economic Life in Dooars Region of West Bengal" would be designated basically on the geographic norms of regional analysis. Block is proposed as the unit area for the study based on secondary sources of data. However, this analysis can not give all the details which are required in the proposed research. Therefore, some of the relevant material will be collected from the primary sources for the analysis and testing the hypothesis. For the data processing standard statistical techniques such as regression, factor analysis and correlation will be applied to arrive at healthy conclusion. Further, out put graphs maps and sketches will be drawn for the clear representation of the computed work.

The study will be undertaken by collecting published and unpublished data. The data includes the information on different aspects of tea economy and society, level of socio-economic development, impact of new tea plantation policies, plans and laws on socio-economic set up. These information will have to be collected on the basis of questionnaire interview, observations is a part of extensive and intensive field work.

Fresh information is necessary in order to measure the impact of tea plantation on socio-economic development in Dooars region and

also to assess the attitude of the workers in tea garden towards the new development which is taking place in the Dooars areas.

The proposed tentative plan for doctoral research is given below. The study will be accomplished in following broad stages.

1. The collection of literature and related work and its analysis;
2. Empirical observations (field work).
3. Collection, computation, interpretation and results of the work.

The data and other information collected from library, different research centres and throughout the field survey would be a source of detailed analysis and interpretation of the impact of tea plantation on the socio-economic life of people in Dooars region.

It is hoped that the proposed study, when completed would add a new chapter of research on the existing knowledge of tea garden economy and will provide a further base enhance the tea plantation more profitably and extend its effects to improve the social and economic conditions of the people involved in this occupation in general and in the Dooars region in particular.

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